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# SUMMARY OF TRADE AND TARIFF INFORMATION

Prepared in Terms of the Tariff Schedules of the United States

## SOFTWOOD VENEER AND PLYWOOD

TSUS Item 240.03 and Related Numbers

COMPLETED
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I

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II

# FOREWORD

Each Summary of Trade and Tariff Information is part of a series published by the United States International Trade Commission to provide information on conditions of competition between domestic and foreign products. This report, generally covering the period 1975 through 1979, represents one of many being published in the current series of summaries.

This series provides comprehensive coverage of product uses, the domestic industry, U.S. consumption, production, and trade, and the domestic and international markets in each commodity area. The summaries are cast in terms of the eight schedules of the Tariff Schedules of the United States (TSUS).

The current series will consist of approximately 600 individual reports. The Commission will issue updated statistical tables and industry status reports as appropriate for individual summaries. The overall program will run several years, ultimately covering all items of the TSUS.

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## Executive Summary

This summary covers softwood veneer, plywood, and related panel products. These products are used throughout the world principally in the construction and maintenance of residential and commercial buildings.

The United States is by far the world's leading producer and consumer of these products. Canada, the European Community, and Japan are other important markets. The domestic industry consists of approximately 135 firms, employing nearly 46,000 people. The Pacific Northwest and the South are the principal producing regions.

U.S. consumption of softwood veneer and plywood, influenced by high levels of housing construction in the late 1970's, has increased to record levels. A dramatic increase in mortgage rates in late 1979 led to a dampening of demand and curtailment of production.

U.S. consumption of softwood veneer rose steadily from 57.1 billion square feet in 1975 to 73.3 billion square feet in 1978, and then fell to 71.8 billion square feet in 1979. Similarly, softwood plywood consumption increased from 15.6 billion square feet in 1975 to 19.6 billion square feet in 1978 before falling to 19.1 billion square feet in 1979. Low levels of housing construction, which are expected to continue through 1980 and 1981, are likely to lead to further declines in consumption of softwood veneer and plywood.

Imports and exports of softwood veneer and plywood are of minor importance to U.S. industry, although some effort has been made to expand export trade as a buffer against consumption cycles resulting from fluctuating housing construction. In 1979, imports of softwood veneer and plywood were valued at $25 million, less than 1 percent of the value of consumption. Exports in 1979, valued at $113 million, were approximately 2 percent of the value of production. Canada is the principal source of U.S. veneer imports and the principal market for U.S. veneer exports. The Philippine Republic and Mexico are principal suppliers of U.S. plywood imports, and the European Community is the principal market for U.S. plywood exports.

## Description and Uses

| Commodity | TSUS item No. |
|---|---|
| Wood veneers: | |
| Not reinforced or backed: | |
| Softwood | 240.03(pt.) |
| Reinforced or backed: | |
| Decorative softwood, not face finished | 240.04(pt.) |
| Other softwood | 240.06(pt.) |
| Plywood: | |
| Not face finished: | |
| Parana pine | 240.12 |
| European red pine | 240.16 |
| Other softwood | 240.21 |
| Face finished: | |
| Softwood | 240.25(pt.) |
| Wood veneer panels: | |
| With veneer faces on both sides: | |
| Not face finished: | |
| Parana Pine | 240.32 |
| European red pine | 240.36 |
| Other softwood | 240.38(pt.) |
| Face finished: | |
| Softwood | 240.40(pt.) |
| With veneer face on one side only: | |
| Not face finished: | |
| Parana pine | 240.52 |
| European red pine | 240.56 |
| Other softwood | 240.58(pt.) |
| Face finished: | |
| Softwood | 240.60(pt.) |
| Cellular panels | 245.60(pt.) |

Note.--For the statutory description, see excerpt from the Tariff Schedules of the United States Annotated (1981) in app. A. A concordance of the TSUS items included in this summary with related categories in other production, export, and import nomenclatures is found in app. B.



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Softwood veneers, softwood plywood, wood-veneer panels, and cellular panels are rigid, flat wood sections. Veneers are solid single wood plies that are cut directly from a log. Plywood and veneer panels are wood assemblies composed of several veneers bonded together to form a panel. Cellular panels are sandwich-type assemblies composed of honeycomb cellular sections that are faced on both sides with wood veneers.

In this summary data on quantities of veneers and panels are expressed in terms of square feet surface measure unless otherwise specified.

The term "wood veneers" is defined in the Tariff Schedules of the United States (headnote 1(a), pt. 3, schedule 2) as "Wood sheets or strips, regardless of thickness, quality or intended use, produced by slicing or rotary cutting of logs or flitches; and wood sheets, not over 1/4 inch in thickness, produced by sawing and of a type used to overlay inferior materials." The tariff provisions for wood veneers include veneers that have been reinforced or backed on one or both sides with paper, cloth, or other flexible material.

Softwood veneers are derived from coniferous, or evergreen, species of trees such as Douglas-fir and pine, in contrast to hardwood veneers, which are derived from broad-leaved, or deciduous trees.

The softwood veneers included in item 240.0340 are not reinforced or backed; however, they may be face finished on one or both sides with wood preservatives, or with fillers, sealers, waxes, oils, stains, varnishes, paints or enamels.

The softwood veneers included in items 240.0440 and 240.0640 are reinforced or backed with paper, cloth, or other flexible material. Item 240.0440 includes decorative veneers that are not face finished, as well as those that have been face finished with a clear or transparent material that does not obscure the grain, texture, or markings of the wood. Item 240.0640 includes all other reinforced or backed softwood veneers.

Softwood veneers are produced in the United States from a limited number of species of softwood trees but largely from Southern yellow pine, Douglas-fir, and certain other Western softwoods. These veneers are used for their structural and utilitarian characteristics, rather than aesthetic qualities. Such veneers are produced, chiefly by rotary cutting, in sizes up to about 4 feet by 8 feet and in thickness from 1/16 inch to 3/16 inch. Almost the entire domestic output of softwood veneers is converted into the manufacture of softwood plywood; the remainder is consumed primarily in the manufacture of single-ply shipping containers.

Both softwood plywood and wood veneer panels have several features in common: they are wood-ply assemblies are bonded together with adhesive substances, and have softwood facing.

For tariff purposes, softwood plywood (items 240.1200, 240.1600, 240.2100, 240.2540) consists of rigid wood-veneer assemblies bonded together with adhesive substances and having a central ply or core of wood veneer or

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lumber with the same number of plies (one or more) of wood veneer on each side thereof. Such assemblies, therefore, have an odd number of plies; the grain of at least one ply is at an angle (usually a right angle) to the grain of the other plies. This type of balanced construction (an equal number of comparable plies on both sides of a central ply) results in a product of an exceedingly high strength-to-weight ratio and of approximately uniform strength throughout its horizontal plane.

Wood-veneer panels are similar in appearance and construction to plywood, but generally lack the balanced assembly of plywood. For tariff purposes, wood-veneer panels (except plywood) consist of a veneer ply on one side of a backing, or on both sides of a core, the backing or core being composed of lumber, veneer, hardboard, wood particle board, or other material. Such panels do not include single-ply veneers or veneers reinforced or backed with flexible materials.

Cellular panels (item 245.60) are rigid, thick, sandwich-type assemblies bonded together with adhesive substances, ordinarily having the balanced construction of plywood. The core of such panels consists of a light, rigid material (usually ranging from 3/4 inch to 5 or 6 inches in thickness) of hollow, honeycomb, or sponge-like construction made of paperboard, rubber, plastics, or other cellular material. The core construction may have interstices filled with loose or loosely matted fibrous materials. Plywood sheets (typically of identical thickness, number of plies and species of wood) bonded with adhesives to both sides of the core material form a completed cellular panel. Currently, softwood plywood is the principal material used for both faces of cellular panels, but other materials, such as hardwood plywood, veneer, wood-veneer panels, lumber, hardboard, wood particle board, or board composed of vegetable fibers, may also be used as facing material. Most cellular panels have three layers, those on either side of the core being of the same material and thickness so as to make a product of balanced construction.

The exterior surfaces of plywood and related panels are generally known as faces, but where only one side of a panel is to be exposed, this surface is referred to as the face (the side of better quality) and the other side as the back. Plywood and the related panels considered here that have veneer faces are identified in the trade as hardwood- or softwood-panel products, according to the species of wood in the face ply. For example, Parana pine plywood is a softwood plywood in the trade, regardless of the species of wood making up the interior plies or the back. Most softwood plywood, however, is made of softwood throughout.

The surfaces of the panels considered here may be plain, whether or not sanded; sometimes, for decorative effect, the surfaces are mechanically scored, striated, or similarly processed. Occasionally, softwood plywood and other panel products may be face finished on one or both sides with wood preservatives or with fillers, sealers, waxes, oils, stains, varnishes, paints or enamels, or may be overlaid with paper, fabric, plastics, base metal, stone, or other material.

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Plywood with a plain face ply of Parana pine, for example, or a face of that species finished with a clear or transparent material that does not obscure the natural grain or texture is classifiable for duty purposes under item 240.12, whether or not the faces have been mechanically scored. On the other hand, plywood having a face ply of Parana pine coated with paint or overlaid with materials so as to obscure the grain, texture, or natural markings of the wood is classifiable for duty purposes as face finished plywood.

Softwood plywood is made from a limited number of native and foreign species of wood, but chiefly from Douglas-fir. Other domestic species of importance include hemlock, pine, larch, spruce, and fir. Softwood plywood is produced in various types, grades, and sizes, according to standard specifications, chiefly to meet requirements as a basic construction material where appearance is not a factor. The most popular size is 4 feet by 8 feet, with a range in thickness of 1/4 to 3/4 inch. The two basic types of softwood plywood produced are (1) exterior--usually made with waterproof hot-pressed phenolic resin adhesive which becomes permanent and insoluble under practically any exposure condition, and (2) interior--made for the most part with water-resistent protein glues, either hot- or cold-pressed, for application where permanent protection is provided from the elements.

Softwood plywood and related panels produced in the United States are chiefly used for general construction purposes. Almost half of the plywood produced is used in the building of new homes. Other major uses of plywood include nonresidential construction, concrete forms, furniture and fixtures, boats, and general maintenance and repair work of structures.

## Customs Treatment

### U.S. customs treatment

The following table shows the rates of duty which applied to imports of softwood veneers, plywood and veneer panels, and cellular wood panels prior to January 1, 1980, from those countries having most-favored-nation status (col. 1), the current and future column 1 rates of duty negotiated in the Tokyo round of the Multilateral Trade Negotiations (MTN), the rates of duty which apply to countries designated by the President as being under Communist domination or control (col. 2), and a reference as to the eligibility for duty-free treatment under the Generalized System of Preferences (GSP). 1/

1/ The Generalized System of Preferences, under title V of the Trade Act of 1974, provides duty-free treatment of specified eligible articles imported directly from designated beneficiary developing countries. The GSP, implemented by Executive Order No. 11888 of Nov. 24, 1975, applies to merchandise imported on or after Jan. 1, 1976, and is scheduled to remain in effect until Jan. 4, 1985.

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Softwood veneers, plywood, and cellular wood panels: U.S. rates of duty, present and negotiated, by TSUS items

| TSUS item No. | Description | Pre-negotiated rate of duty | Present col. 1 rate of duty | Negotiated col. 1 rate of duty 1/ | Col. 2 rate of duty | GSP eligibility |
|---|---|---|---|---|---|---|
| | Wood veneers, whether or not face finished, including wood veneers reinforced or backed with paper, cloth, or other flexible material: | | | | | |
| | Not reinforced or backed: | | | | | |
| 240.03 | Other (pt.)---------- | 5% ad val. | Free 2/ | Free 2/ | 20% ad val. | Yes. |
| | Reinforced or backed: | | | | | |
| 240.04 | Decorative wood veneers, not face finished, or face finished with a clear or transparent material which does not obscure the grain, texture, or markings of the wood (pt.). | 8% ad val. | Free 2/ | 3.2% ad val. 2/ | 33-1/3% ad val. | Yes. |
| 240.06 | Other (pt.)---------- | 5% ad val. | Free 2/ | Free 2/ | 20% ad val. | Yes. |
| | Plywood, whether or not face finished: | | | | | |
| | Not face finished, or face finished with a clear or transparent material which does not obscure the grain, texture, or markings of the face ply: | | | | | |
| 240.12 | With a face ply of Parana pine (Araucaria angustifolia). | 12.5% ad val. | 10.6% ad val. | 5% ad val. | 40% ad val. | Yes. |
| 240.16 | With a face ply of European red pine (Pinus sylvestris). | 8.5% ad val. | 7.7% ad val. | 5.3% ad val. | 40% ad val. | Yes. |
| | Other: | | | | | |
| 240.21 | With a face ply of softwood. | 20% ad val. | 20% ad val. | 8% ad val. 3/ | 40% ad val. | Yes. |
| 240.25 | Other (pt.)---------- | 20% ad val. | 17% ad val. | 8% ad val. | 40% ad val. | No. |

See footnotes at end of table.



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Softwood veneers, plywood, and cellular wood panels: U.S. rates of duty, present and negotiated, by TSUS items--Continued

| TSUS item No. | Description | Pre-negotiated rate of duty | Present col. 1 rate of duty | Negotiated col. 1 rate of duty 1/ | Col. 2 rate of duty | GSP eligibility |
|---|---|---|---|---|---|---|
| | Wood-veneer panels, whether or not face finished: | | | | | |
| | With veneer faces on both sides: | | | | | |
| | Not face finished, or face finished with a clear or transparent material which does not obscure the grain, texture, or markings of the face ply: | | | | | |
| 240.32 | With a face ply of Parana pine (Araucaria angustifolia). | 12.5% ad val. | 11% ad val. | 6.6% ad val. | 40% ad val. | Yes. |
| 240.36 | With a face ply of European red pine (Pinus sylvestris). | 8.5% ad val. | 7.7% ad val. | 5.3% ad val. | 40% ad val. | Yes. |
| 240.38 | Other (pt.)-------- | 10% ad val. | 4% ad val. | 4% ad val. 4/ | 40% ad val. | Yes. |
| 240.40 | Other (pt.)---------- | 10% ad val. | 4% ad val. | 4% ad val. 4/ | 40% ad val. | Yes. |
| | With veneer face on one side only: | | | | | |
| | Not face finished, or face finished with a clear or transparent material which does not obscure the grain, texture, or markings of the face ply: | | | | | |
| 240.52 | With a face ply of Parana pine (Araucaria angustifolia). | 12.5% ad val. | 11 % ad val. | 6.6% ad val. | 40% ad val. | Yes. |
| 240.56 | With a face ply of of European red pine (Pinus sylvestris). | 8.5% ad val. | 7.7% ad val. | 5.3% ad val. | 40% ad val. | Yes. |
| 240.58 | Other (pt.)---------- | 10% ad val. | 8.5% ad val. | 4% ad val. | 40% ad val. | Yes. |
| 240.60 | Other (pt.)---------- | 10% ad val. | 8.5% ad val. | 4% ad val. | 40% ad val. | Yes. |
| 245.60 | Cellular panels, whether or not face finished. | 10% ad val. | 8.5% ad val. | 4% ad val. | 40% ad val. | Yes. |

1/ Rate negotiated under the Multilateral Trade Negotiations in Geneva (Tokyo round) to be achieved through 8 annual staged reductions, except as noted.

2/ These items were made duty free by Public Law 96-906, signed Dec. 28, 1980.

3/ To be reduced through 8 annual staged reductions on or after the date (published in the Federal Register) not more than 30 days after the date on which the United States Trade Representative has determined that satisfactory progress has been made toward the development of a common North American standard for softwood plywood.

4/ Rate becomes effective Jan. 1, 1981.



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The customs classifications of the articles covered in this summary are quite straight-forward. The definitions of veneer, plywood, veneer panels, and cellular panels are given in the "Description and Uses" section of this summary and are shown in appendix A. These items are so classified regardless of length and width. Thus, for example, veneers cut 2 inches by 3 inches for use as business cards are classified as veneers.

In general, the surface working of the faces of these articles will not change their classification, but working the edges, such as tongue and grooving, will. Panels with T-channel grooves routed along the edge are classified as articles not specially provided for, of wood in TSUS item 207.00, and birch plywood consisting of 13 plies of wood, birch faced, 5/8 inch thick, from 1 through 12 inches wide, and in appropriate lengths for use as flooring, tongued along one edge, and grooved along the other, is classifiable under the provision for wood flooring in TSUS item 202.60.

There are no significant nontariff barriers to trade. State and municipal building codes may exclude the use of certain plywood in building construction, but these codes are not used to exclude veneers or plywoods from importation. Likewise, standards related to the flammability of softwood veneers and plywood in furniture and buildings are applied equally to domestic products.

Foreign customs treatment

With the exception of the United States and Canada, most major trading countries use the Customs Cooperation Council Nomenclature (CCCN), formerly the Brussels Tariff Nomenclature, as the basis for their tariff classifications. In the CCCN wood veneers are classified in heading 44.14 under wood sawn lengthwise, sliced or peeled but not further prepared, of a thickness not exceeding 5 millimeters; veneer sheets and sheets for plywood, of a thickness not exceeding 5 millimeters. Plywood is classified in heading 44.15 under plywood, blockboard, laminboard, battenboard, and similar wood products. Cellular wood panels are classified in heading 44.16 under cellular wood panels, whether or not faced with base metal. Distinctions between hardwoods and softwoods, as well as between specific species, are not made in these headings, but such distinctions are made in individual country tariff schedules for important items of trade. While it is impractical to list all tariffs applied to veneers, plywoods and cellular wood panels, the following tabulation shows the rates of duty on imports from the United States offered under the MTN by Canada, the European Community (EC), and Japan, the principal foreign markets for U.S. exports of these products.

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| Market | Description | Rate of duty 1/ | Negotiated Market rate of duty 2/ |
|---|---|---|---|
| Canada | Softwood plywood, face finished (50600-1). | 15% ad val. | 8% ad val. |
| | Softwood plywood, not otherwise provided for (50715-0). | 15% ad val. | 8% ad val. |
| | Wood panels, veneer on one side (50600-0). | 15% ad val. | 8% ad val. |
| | Wood panels, veneer on both sides (50715-0). | 15% ad val. | 8% ad val. |
| | Veneers of wood (50710). | 10% ad val. | 4% ad val. |
| | Cellular panels (50600-0). | 15% ad val. | 4% ad val. |
| EC | Wood veneers, etc. (44.14B). | 7% ad val. | 6% ad val. |
| | Plywood, blockboard, laminboard, battenboard and similar articles (44.15). | 13% ad val. | 10% ad val. |
| | Cellular wood panels (44.16). | 5% ad val. | 3.8% ad val. |
| Japan | Wood sawn lengthwise, sliced or peeled of a thickness not exceeding 5mm (44.14). | 15% ad val. | 15% ad val. |
| | Plywood, blockboard, laminboard and similar articles (44.15). | 20% ad val. | 20% ad val. |
| | Cellular wood panels (44.16). | 10% ad val. | 10% ad val. |

1/ Rates applicable to imports from the United States in effect prior to the Multilateral Trade Negotiations (MTN).

2/ Final rates negotiated under the MTN.

Note.--Rates in this section were drawn from unofficial sources and may not accurately reflect current rates of duty.

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There are no significant nontariff barriers to trade in the major market countries for U.S. exports of softwood veneers, plywood, and cellular wood panels. Difficulties most often encountered in exporting these articles are varying product standards, including units of measurement, and varying building codes.

## U.S. industry

### Basic data and information

There were approximately 90 firms with 190 plants producing softwood plywood in 1979. These plants also produce softwood veneer as an integral part of the softwood plywood manufacturing process. Some of these firms have veneer plants at locations other than their plywood mills. Approximately 45 additional firms have no softwood plywood manufacturing facilities and produce veneer for market sales.

Production of softwood veneer and plywood is concentrated in the Pacific Northwest, especially in Oregon and Washington, and in the South, primarily in Alabama, Texas, and Louisiana. Softwood plywood manufacturing capacity in 1979, estimated from data in the Directory of the Forest Products Industry, 1980, was as follows:

(In millions of square feet)

| State | Capacity | State | Capacity |
|---|---|---|---|
| Alabama | 1,400 | Montana | 700 |
| Arkansas | 1,350 | North Carolina | 450 |
| California | 570 | Oklahoma | 1/ |
| Florida | 100 | Oregon | 8,150 |
| Georgia | 1,000 | South Carolina | 650 |
| Idaho | 570 | Texas | 2,050 |
| Louisiana | 1,850 | Virginia | 1/ |
| Maryland | 50 | Washington | 2,060 |
| Mississippi | 950 | | |

1/ Withheld to avoid disclosure of individual operations.

Oregon led all States with over 70 plants and approximately 37 percent of the estimated 22 billion square feet of U.S. softwood plywood capacity in 1979. The five leading States account for approximately 70 percent of production. Until 1963, U.S. production of softwood plywood came entirely from the West. Technological developments in the late 1950's and early 1960's in the gluing of Southern yellow pine veneer into stable plywood set off rapid expansion in the South. Today the South accounts for almost half of all softwood plywood produced in the United States. Since 1978, six plants in the West have been closed permanently, while six plants have began operating in the South, with additional ones scheduled to open in the early 1980's.

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Census data reflect this shift in the softwood veneer and plywood industry. Data for the industry for census years 1963-77 are summarized below. In 1963, shipments of softwood veneer and plywood originating in the South were insignificant, and it is estimated that 85 percent of the expenditures for new capital and equipment were being made in the West. By 1967, shipments originating in Southern mills were valued at $100.7 million, and expenditures for new capital and equipment were approximately 25 percent of the total for the industry. Between 1967 and 1977, the value of shipments from the Southern mills increased to an estimated $1,400.0 million, or by an annual rate of about 30 percent. Shipments from Western mills during the same period increased from $682.6 million to an estimated $2,350.0 million, an annual rate of increase of approximately 13 percent. Expenditures reported in 1977 for new capital and equipment in the South were nearly equal to those reported for the West. Diminishing supplies of large, old growth, softwood timber in the West and uncertainty over the availability of timber from Western State and Federal lands are likely to lead to a continuance of this trend.

(In millions of dollars)

| Year | South | | West | | United States | |
|---|---|---|---|---|---|---|
| | Shipments | New capital expenditure | Shipments | New capital expenditure | Shipments | New capital expenditure |
| 1963-- | 1/ 2.0 | 2/ | 1/ 750.2 | 1/ 30.0 | 797.0 | 1/ 35.0 |
| 1967-- | 100.7 | 1/ 15.0 | 682.6 | 1/ 35.0 | 943.2 | 1/ 58.0 |
| 1972-- | 501.4 | 26.4 | 1,492.8 | 38.3 | 2,011.5 | 65.4 |
| 1977-- | 1/1,400.0 | 1/ 48.0 | 1/ 2,350.0 | 1/ 50.0 | 3,783.0 | 104.9 |

1/ Estimated.
2/ Not available.

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The industry is concentrated both in geographic regions and in producing firms. Census statistics for 1972 indicate that the top four producers accounted for 37 percent of the value of shipments, and the top 8, 20, and 40 firms accounted for 50, 67,and 87 percent of the value of shipments, respectively. In 1979, it is estimated that the top 4 and top 8 firms accounted for 35 and 50 percent of capacity, respectively. These firms are also producers of other forest products, including some which are directly competitive with softwood veneer and plywood. The top 10 producers of softwood veneer and plywood would be similarly ranked among producers of all forest products.

According to Census Bureau data, there were 46,200 employees working in softwood veneer and plywood mills in 1977. Of these, 41,900 were production workers. Wages for production workers totaled $557 million. Employment fell from 45,500 in 1973 to 41,100 in 1975 (a year of low building construction) and then rose to 45,000 and 46,200 in 1976 and 1977, respectively. Employment in 1979 is estimated to be approximately 46,000.

For the most part the labor force is relatively low skilled, involved in assembly-line operation. A few highly skilled positions are interspersed throughout the operation. These include lathe operators, veneer clippers, and plywood press operators. The increased use of computers to center logs in lathes and scan veneers for defects will reduce the number of skilled operators required, but generally upgrade the skills required to operate the mill.

Productivity for softwood veneer and plywood mills is high among forest products industries but low when compared with U.S. industry in general. In the following tabulation, data from the 1977 Census of Manufactures are used as a measure of relative productivity. Value added per employee in the softwood veneer and plywood industry was $34,264 in 1977, exceeding that for the

| Industry | Production workers | Man hours worked | Wages | Value added/ employee | Value added/ production worker hour |
|---|---|---|---|---|---|
| | | | Million | | |
| Softwood veneer and plywood | 41,900 | Millions 89.4 | dollars 556.9 | $34,264 | $17.70 |
| Hardwood veneer and plywood | 19,100 | 37.9 | 162.0 | 18,811 | 11.08 |
| Sawmills and planning mills | 155,800 | 315.6 | 1,622.7 | 25,411 | 14.10 |
| All wood products | 594,800 | 1,147.6 | 5,795.0 | 16,223 | 9.25 |

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hardwood veneer and plywood, for sawmill and planing mill industries, and for the industry average for all wood products, excluding paper. Selected costs of production compiled from the 1977 Census of Manufactures are given in the following tabulation:

| Item | Cost | Percent of total |
|---|---|---|
| Labor | 634,600 | 21 |
| New capital expenditures | 105,600 | 4 |
| Materials, parts, containers and supplies: | | |
| Logs and stumpage | 1,261,100 | |
| Veneer | 385,400 | |
| Lumber, plywood, and particle board | 1/ 120,000 | |
| Glues and adhesives | 119,300 | |
| Other | 345,300 | |
| Total | 2,231,100 | 75 |
| Total | 2,971,300 | 100 |

1/ Estimated

Production methods in the softwood veneer and plywood industry have not changed significantly in recent years. For instance, the processes of manufacture of veneer and plywood have remained essentially unchanged over the last 50 years. The last major innovation was the development in the early 1960's of a glue that successfully bonded veneer of southern softwood species. Recently, the use of computers to speed certain manufacturing steps is leading to more efficient production and less waste in the industry. Future technological advances in the forest products industry, however, are more likely to occur in the development of substitute products for plywood in its predominant use, that of building construction, rather than in the manufacture of plywood.

Financial information

Data on major U.S. softwood plywood producers show that median returns on shareholders' equity and median returns on total capital for these firms increased during the last half of the 70's. 1/ Much of these increases reflected the improved financial condition of the housing industry after the 1974-75 housing slump. However, residential building construction started a

1/ Source: Forbes, 28th-32nd annual reports on the American industry, Jan. 1 of 1976-80.

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decline in late 1979 as a result of increased mortgage rates. This decline has continued in 1980, and low levels of housing construction are predicted well into 1981. This will probably lead to lower financial prosperity than the industry enjoyed during the late 1970's.

Available financial indicators for leading softwood plywood producers and a comparison with all industry are shown in table 1 of appendix C. It should be noted that the data reflect all operations of these firms, not just their softwood plywood operations.

Price setting

In the softwood veneer and plywood industry prices are most affected by the availability of raw materials, principally softwood logs, and the demand for final products. In the period between 1975 and 1980, these two factors have put upward pressure on prices. The producer price index for softwood veneer and softwood plywood are shown in figures 1 and 2, respectively.

Prices are generally arrived at through interaction between producers and wholesalers. Producers usually circulate price lists to wholesalers which are in turn used by the wholesalers as a starting point in a price bargaining process. A typical wholesaler will call several mills attempting to get the lowest price quote for a specific order. Mills are able to assess demand for their product on the basis of the frequency of these calls and the determination of wholesalers in the bargaining process. Mills usually revise price lists weekly, and decisions on price levels are based on experience. On any day, a range of prices can exist for each product line.

In the short run, costs of production may have less effect on prices than inventories and orders from wholesalers. Under these conditions price fluctuations can shift quickly and unpredictably.

Two trade publications survey the industry and publish historical price data on a weekly basis. This information is an additional aid to mills in establishing price lists, and for some smaller firms serves as the basis for their price list.

Wholesalers arrive at their prices in a similar manner, gaging orders to producers against demand from retailers. Because they carry a wide variety of building products wholesalers may be more flexible than producers in their pricing practices, taking losses on some items against favorable prices in others. Retailers generally use a fixed markup varying between 10 to 50 percent in setting prices for these items.

Marketing

Softwood veneer and plywood are for the most part distributed through wholesalers, both company affiliated and independent. Exact percentages are not available, but it is believed that approximately three-fourths of mill sales are through wholesalers, and approximately half of these sales are handled by affiliates. Most of the remaining mill sales are through retailers. Most market sales of veneer are from mill to mill. Product

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differentiation being relatively unimportant, most marketing-sales efforts of veneer and plywood are based on price and service. Wholesalers usually buy standard lots of plywood and break these down for special orders. Wholesalers commonly maintain a varied inventory and may further process standard plywood products in such operations as cutting to size for special orders. Wholesalers sell these and other building products directly to building contractors and retailers.

Varying degrees of integration exist in the industry. Most large producers are integrated from the woods through to retail supply centers. Even so, partially integrated firms represent a significant part of the industry and appear to be at no particular disadvantage when compared with more integrated firms. Totally integrated firms often purchase timber from other companies and sell plywood through nonaffiliated wholesalers. Most large firms have their own departments to process imports and exports of veneers and plywood as well as their other forest products, whereas smaller firms generally rely on specialized independent brokers.

A well established transportation pattern exists for veneers and plywood which varies by producing region. Hauling distances from the Western States to distant markets have led to a predominant use of rail transportation. Approximately 60 percent of shipments from Western mills are by rail as opposed to an estimated 30 percent from Southern mills, where market proximity makes highway transportation more efficient. Waterborne shipments are limited to exports and account for less than 1 percent of shipments.

## U.S. Market

### Domestic market profile

Softwood veneer is consumed primarily by domestic manufacturers of softwood plywood. In 1978, the Census Bureau reported U.S. veneer production to be 6 million square feet on a 1-inch-thick basis. Of this, approximately 2 million square feet was purchased by softwood plywood producers and one million square feet transferred to plywood mills affiliated with veneer producers. Most of the remainder was veneer produced as an integral part of the softwood plywood manufacturing process in the same plant. A small amount, approximately 5 percent, was purchased or produced by hardwood plywood, wood box, and other wood product manufacturers. The market for veneer is therefore almost entirely influenced by the production of softwood plywood.

Softwood plywood is consumed primarily in building construction, particularly of residential homes. Demand for plywood is highly dependent on housing construction and all the factors that influence this construction, such as household formation, interest rates, and the availability of mortgage money. While the softwood plywood industry has cushioned its dependence on housing construction by developing new markets in home improvements and

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manufacturing, the industry is still strongly influenced by cycles in housing construction. A breakdown of the major end uses for softwood plywood is shown in the following table.

Softwood plywood: Major end uses, by specified years, 1970-1990

(In millions of square feet)

| Year | Construction | | Home repair and improvement | Manufacturing | Other | Total |
|---|---|---|---|---|---|---|
| | New residential housing | Other | | | | |
| 1970 | 5,000 | 1,415 | 2,120 | 1,415 | 4,200 | 14,150 |
| 1975 | 6,220 | 1,550 | 2,330 | 1,870 | 3,580 | 15,550 |
| 1980 | 6,080 | 1,920 | 3,040 | 1,760 | 3,200 | 16,000 |
| 1985 | 8,800 | 2,640 | 3,300 | 2,200 | 5,060 | 22,000 |
| 1990 | 10,360 | 2,850 | 3,900 | 2,850 | 5,940 | 25,900 |

Source: Compiled by the staff of the USITC from statistics of the U.S. Forest Service and the American Plywood Association.

Softwood plywood is a homogeneous product, and it is difficult for firms to develop a proprietary product. Sales, therefore, are based primarily on price and service. Most large plywood producers have mills in all major producing regions and therefore few have any competitive advantage as a result of proximity to markets. The pattern of shipments from the Western producing region, comprising mills in the Western part of California, Oregon, and Washington, to consuming regions in the United States is summarized in table 2. More than 75 percent of the remaining production originates in Southern States.

Softwood plywood is shipped from the Western producing regions to all markets, but principally to those comprising Western and North Central States. Plywood from the Southern producing region is shipped for the most part to Northeast, North Central, and Southern markets.

There are many substitutes for plywood particularly in residential construction. Many of these, such as particleboard and hardboard as well as other boards made from wood chips and wood fibers, are manufactured by softwood veneer and plywood producers. These products were developed in part to utilize waste material, to extend raw material supplies, and to provide lower cost substitutes for softwood plywood. While plywood has weight and strength advantages over these products, projected shortages of raw material are likely to dictate increased use of substitute products. Companies producing a variety of board products including plywood are likely to increase research and development of plywood substitutes as opposed to developing more efficient plywood processes.

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U.S. consumption

The United States is by far the world's leading producer of softwood veneer and plywood, and most domestic consumption is supplied by U.S. sources. Consumption of softwood veneers rose steadily from 57.1 billion square feet in 1975 to 72.3 billion square feet in 1978, and then declined slightly to 71.8 billion square feet in 1979 (table 3). Consumption of softwood plywood, similarly, rose from 14.9 billion square feet in 1975 to 19.6 billion square feet in 1978, and then fell to 19.0 billion square feet in 1979 (table 4).

The increase in consumption of both softwood veneer and plywood is for the most part a result of increased residential housing construction following the 1974-75 recession. Declines in 1979 reflect the slowdown in housing construction in the last 2 months of 1979. This slowdown continued into the first quarter of 1980 and is expected to result in lower consumption of both veneers and plywood in 1980, perhaps approximating the 1975 totals.

Imports traditionally have accounted for less than 1 percent of domestic consumption of both softwood veneer and plywood (tables 3 and 4). Exports have similarly been small, providing a residual market for U.S. production. When domestic demand is high exports decline as in 1977 and 1978 when they fell to less than 2 percent of U.S. production from 5 and 4 percent in 1975 and 1976, respectively.

Imported and exported veneer and plywood are generally comparable in quality and price with the domestically produced product. With the exception of exported wood veneers, the differences in unit values for domestically produced and imported and exported veneers and plywood can be explained by customs valuation procedures and the point in the distribution chain at which these items are priced.

U.S. production

Production of softwood veneer climbed from 57.1 billion square feet in 1975 to 72.0 billion square feet in 1978, an average annual rate of increase of 8 percent. Production fell slightly to 71.5 billion square feet in 1979 and is expected to have declined more drastically in 1980. Softwood plywood production increased from 15.6 billion square feet in 1975 to 19.5 billion square feet in 1978, and then fell to 19.4 billion square feet in 1979. The trend in production is allied closely with fluctuations in the construction of residential homes. The industry, however, feels that the impact of these fluctuations has been cushioned to some extent by the development of other markets.

Douglas-fir accounts for approximately 50 percent of the plywood production by species, and unsanded plywood made with exterior type glue

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accounts for approximately 75 percent of production by type. U.S. Census Bureau data for 1977 and 1978 by species and type are summarized in the following tabulation.

(In thousands of square feet, 3/8 inch basis)

| Item | 1977 | 1978 |
|---|---|---|
| Species: | | |
| Douglas-fir | 9,674,844 | 9,645,650 |
| Hemlock | 236,502 | 350,648 |
| Southern yellow pine | 7,438,344 | 7,753,170 |
| Other softwood | 1,527,578 | 1,742,260 |
| Total | 18,877,268 | 19,491,728 |
| Type: | | |
| Interior: | | |
| With interior glue: | | |
| Sanded | 258,630 | 208,455 |
| Unsanded | 425,140 | 404,985 |
| With exterior glue: | | |
| Sanded | 1,113,080 | 1,248,695 |
| Unsanded | 10,488,043 | 10,579,331 |
| Exterior: | | |
| Sanded | 2,766,439 | 2,797,180 |
| Unsanded | 3,825,936 | 4,253,082 |
| Total | 18,877,268 | 19,491,728 |

Douglas-fir plywood as a percent of total production declined from 51 percent to 49 percent from 1977 to 1978. Southern yellow pine as a percent of production increased from 39 percent to 40 percent in the same period. This reflects the continued increase in importance of the South in softwood plywood production. As late as 1970, Douglas-fir and Southern yellow pine plywood accounted for 68 and 23 percent of production, respectively.

U.S. imports

Import trends.--Imports account for less than 1 percent of domestic consumption of softwood veneer and plywood. Canada is by far the leading supplier of veneers, providing almost 95 percent of U.S. imports in 1978 and 1979 (fig. 3). The four leading suppliers of softwood plywood, the Philippine Republic, the Republic of Korea, Mexico and Taiwan, together accounted for 90 and 79 percent of imports in 1978 and 1979, respectively (fig. 4). Canada ranked sixth in both years.

The value of softwood veneer imports increased from $7.0 million in 1975 to $18.8 million in 1979 (table 5). These veneers are believed to be comparably priced with domestic veneers of the same quality and are imported and used by U.S. plywood manufacturers for the same purposes as domestically

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produced veneers. More than 90 percent by value of U.S. softwood veneer imports in 1979 entered through the customs district of Seattle, Wash., and are likely to have been consumed in the manufacture of softwood plywood in Northwestern mills.

The value of softwood plywood imports increased steadily from $2.2 million in 1975 to $11.0 million in 1978, and then dropped sharply to $6.2 million in 1979 (table 6). The decline can be attributed in part to slackening demand in the United States in January-June 1979 and the loss of duty-free treatment under the Generalized System of Preferences for Mexico on TSUS item 240.21, softwood plywood, not elsewhere classified, beginning March 1, 1979. In addition, imports of softwood plywood supply only a small part of the U.S. market and as such may react more erratically to a variety of local factors not indicative of general market conditions.

In 1979, imports of softwood plywood entered the United States primarily through the customs districts of Philadelphia, Pa., El Paso, Tex., San Juan, P.R., Charleston, S.C., and New Orleans, La. These five customs districts accounted for almost 70 percent of U.S. imports in 1979.

Almost 90 percent of U.S. imports of softwood plywood entered under TSUS items 240.21, softwood plywood not elsewhere classified, not face finished (table 7), and 240.25, softwood plywood, face finished (table 8). These two items were dutiable at an most-favored-nation rate of 20-percent ad valorem in 1979. The rate of duty on these items is scheduled to be reduced to 8 percent ad valorem as a result of the recently concluded Tokyo round of trade negotiations (see tabulation pp. 7-8). However, the staged reduction on item 240.21 will not commence until satisfactory progress has been made toward the development of a common North American standard for softwood plywood (jointly between the United States and Canada). By the summer of 1980, representatives of the United States and Canada were beginning to agree on an agenda for discussion of such a standard.

None of the leading suppliers of softwood veneer and plywood, with the exception of Canada, have significant supplies of softwood timber and must rely on imports of logs or veneer for the manufacture of veneer or plywood. These countries are not likely, therefore, to significantly increase exports to the United States. Canada, on the other hand, could increase exports to the United States, but this is likely to happen only if softwood plywood production capacity in Canada is increased. Indications are that Canada will not in the near future significantly increase plywood capacity, but will be increasing production capacity of various building boards which are competitive with softwood plywood as a building material.

Imports under item 807.00.--Imports in recent years under TSUS item 807.00, articles assembled abroad from components which are a product of the United States, are of little importance for softwood veneer and plywood. Since 1975 there have been no imports of softwood veneer under item 807.00, and imports of softwood plywood under the provision entered only in 1979 from Canada and were valued at $1,224. There appear to be no economic advantages to exporting veneer for assembly into plywood which would then be returned to the United States.

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Imports under the Generalized System of Preferences.--Table 1 indicates the items eligible for inclusion in the Generalized System of Preferences (GSP). Only item 240.25, face-finished plywood, is excluded.

As shown below imports of softwood veneer and plywood under the GSP peaked at nearly $8 million in 1978, nearly 30 percent of the total imports of these items in that year, and then fell in 1979 to just below $5 million, or 20 percent of the total.

(In thousands of dollars)

| Product | 1976 | 1977 | 1978 | 1979 |
|---|---|---|---|---|
| Softwood veneer | 424 | 993 | 593 | 769 |
| Softwood plywood | 1,462 | 3,878 | 7,361 | 4,200 |
| Cellular panels | - | 2 | 1 | 2 |
| Total | 1,887 | 4,872 | 7,954 | 4,970 |

Note.--Because of rounding figures may not add to the totals shown.

Imports of softwood veneer under the GSP fell from $993,000 in 1977 to $593,000 in 1978, and then increased to $769,000 in 1979. GSP imports of softwood veneer accounted for 4 percent of the value of all softwood veneer imports in every year except 1977, when they were 6 percent. Canada, by far the leading supplier of softwood veneer, is not eligible for GSP benefits. Imports of softwood plywood under the GSP peaked at $7.4 million in 1978 and then fell to $4.2 million in 1979. Imports of softwood plywood under the GSP accounted for 67 and 68 percent of all softwood plywood imports in 1978 and 1979, respectively. While Mexico lost eligibility for GSP treatment in 1979, GSP imports from other supplying countries increased sufficiently to maintain the level of GSP imports.

## The International Market

### International market profile

World production, imports, exports, and apparent consumption of veneer, plywood, and competitive board products in 1978 are shown in table 9. Data for veneer production in this table are understated to the extent that they exclude veneer used for plywood production within the country. Data for veneer and plywood include both hardwood and softwood types. The two major plywood producing areas, North and Central America and Asia, are distinct in that production in the former is predominantly of softwood plywood, and in the latter is almost entirely of hardwood plywood. Imports accounted for 11 percent of consumption of plywood in North and Central America, but most of these imports are of hardwood plywood.

The demand for softwood veneer and plywood exists primarily in developed countries such as the United States, Canada, Japan and those of Europe, where buildings are substantial, and wood is a traditional building material. The

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use of veneer and plywood in these markets is affected by building code requirements, differing standard sizes, traditional building methods, and the cost and competitiveness of other materials, particularly locally produced building materials.

Canada and the United States are virtually self-sufficient in softwood veneer and plywood production, but most European countries and Japan do not have sufficient raw material to meet their requirements. Japan typically imports softwood logs in large quantities from North America which are then manufactured into lumber and plywood which meet traditional Japanese building standards.

The United States, Canada, and the U.S.S.R. are the only major producing countries with the potential to export significant amounts of softwood veneer and plywood. Data of the United Nations Food and Agriculture Organization, summarized in the following tabulation, show that these three countries account for 85 percent of the world's softwood growing stock:

| Area | Volume | Percent |
|---|---|---|
| | Billion cubic feet | |
| North America | 1,395 | 32 |
| South and Central America | 99 | 2 |
| Europe (excluding the U.S.S.R.) | 290 | 7 |
| Africa | 11 | 1/ |
| Asia (excluding the U.S.S.R.) | 247 | 6 |
| U.S.S.R | 2,345 | 53 |
| All other | 11 | 1/ |
| Total | 4,396 | 100 |

1/ Less than 0.5 percent.

Note: Because of rounding, figures may not add to totals shown.

A significant volume of the Soviet Union's softwood growing stock is not readily accessible, nor does the softwood plywood industry in that country have sufficent capacity to supply significantly increased quantities of plywood to world markets in the near future. The United States and Canada are, therefore, the leading competitors in the softwood veneer and plywood markets. Canada's shipments, imports, exports, and apparent consumption are shown in table 10. The trend in Canadian shipments of both softwood veneer and plywood closely follows that of U.S. shipments. Canadian softwood plywood shipments peaked at 2.9 billion square feet in 1978 and then fell to 2.8 billion square feet in 1979. Canadian shipments for both of these years were approximately 15 percent of U.S. shipments. Canadian exports of both softwood veneer and plywood exceed those of the United States. The United States is by far the principal market for Canadian softwood veneer, and the United Kingdom followed by the United States are the principal markets for Canadian exports of softwood plywood.

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U.S. exports

Exports of softwood veneers from the United States fell from a high of 346 million square feet in 1975 to 170 million square feet in 1977, and then increased to 188 million and 187 million square feet in 1978 and 1979, respectively (table 11). Canada is by far the leading market for U.S. softwood veneer exports, accounting for 63 and 55 percent of the value of U.S. exports in 1978 and 1979, respectively (fig. 5). West Germany followed Canada in importance as a market, and accounted for 25 and 20 percent of the value of U.S. exports in 1978 and 1979, respectively.

Softwood plywood exports from the United States fell from 791 million square feet in 1975 to 288 million square feet in 1977 and then increased to 406 million square feet in 1979 (table 12). The United Kingdom was the principal market for U.S. softwood plywood exports in 1978 and 1979, accounting for 19 and 20 percent of U.S. exports, respectively, in those years. Next in order of importance as markets were Belgium, Denmark, Canada and the Netherlands. These countries accounted for 53 percent of the value of U.S. exports in 1979 (fig. 6).

In 1975, Canada was the principal market for domestic softwood plywood exports, accounting for $64 million, or 51 percent of U.S. exports. The principal European Community markets and Japan collectively accounted for $52 million, or 42 percent of U.S. plywood exports. By 1979, however, Canada had fallen to fourth place among markets, with U.S. exports of softwood plywood to that country totaling $10 million dollars, or 10 percent of the value of exports. U.S. exports to the principal European Community markets and to Japan increased in value to $75 million, or 75 percent of the value of softwood plywood exports. This change came in part as a result of efforts to develop new markets for U.S. exports.

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## Appendix A

## Part 3 of schedule 2 of the Tariff Schedules of the United States Annotated (1981)

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| GSP | Item | Stat. Suffix | Articles | Units of Quantity | Rates of Duty | | |
|---|---|---|---|---|---|---|---|
| | | | | | 1 | LDDC | 2 |
| | | | **PART 3. - WOOD VENEERS, PLYWOOD AND OTHER WOOD-VENEER ASSEMBLIES, AND BUILDING BOARDS**<br><br>Part 3 headnotes:<br><br>1. For the purposes of this part, the following terms have the meanings hereby assigned to them:<br>(a) Wood veneers: Wood sheets or strips, regardless of thickness, quality or intended use, produced by the slicing or rotary cutting of logs or flitches; and wood sheets, not over 1/4 inch in thickness, produced by sawing and of a type used to overlay inferior material;<br>(b) Plywood: Rigid wood-veneer assemblies bonded together with adhesive substances having a central ply or core of wood veneer or lumber with one or more plies of wood veneer on each side thereof, the grain of at least one ply being at an angle (usually a right angle) with the grain of one or more of the other plies, including such assemblies the face ply (or plies) of which has been mechanically scored, striated, or similarly processed;<br>(c) Wood-veneer panels: Rigid wood-veneer assemblies, bonded together with adhesive substances, except plywood, with a wood-veneer ply on one side of a backing, or on both sides of a core, which backing or core may be composed of lumber, veneer, hardboard, wood particle board, or other material, including such assemblies the face ply (or plies) of which has been mechanically scored, striated, or similarly processed;<br>(d) Cellular panels: Rigid assemblies bonded together with adhesive substances with both sides or faces consisting of veneer, plywood, lumber, wood-veneer panels, hardboard, wood particle board, or other board composed of vegetable fibers, and with a core of hollow, honeycomb, or sponge-like construction, whether or not the interstices are filled with loose or loosely matted fibrous materials; and<br>(e) Building boards: Panels of rigid construction, including tiles and insulation board, chiefly used in the construction of walls, ceilings, or other parts of buildings.<br><br>2. The term "face finished", as applied to the boards and panels provided for in this part, means that one or both surfaces of a panel or board have been treated with creosote or other wood preservatives, or with fillers, sealers, waxes, oils, stains, varnishes, paints, or enamels, or have been overlaid with paper, fabric, plastics, base metal or other material. | | | | |

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| GSP | Item | Stat. Suffix | Articles | Units of Quantity | Rates of Duty 1 | LDDC | 2 |
|---|---|---|---|---|---|---|---|
| | | | Wood veneers, whether or not face finished, including wood veneers reinforced or backed with paper, cloth, or other flexible material: | | | | |
| | | | Not reinforced or backed: | | | | |
| A | 240.00 | | Birch and maple | ..... | Free | | 20% ad val. |
| | | 20 | Birch (Betula spp.) | M.sq.ft. | | | |
| | | 40 | Maple (Acer spp.) | M.sq.ft. | | | |
| A* | 240.02 | 00 | Philippine mahogany (almon (Shorea almon), bagtikan (Parashorea plicata), red lauan (Shorea negrosensis), white lauan (Pentacme contorta and P. mindanensis), mayapis (Shorea squamata), tangile (Shorea polysperma) and tiaong (Shorea spp.)); seranti (Shorea spp.); red seraya (Shorea spp.); and white seraya (Parashorea spp.) | M.sq.ft. | 4% ad val. | | 20% ad val. |
| A | 240.03 | | Other | ..... | Free | | 20% ad val. |
| | | 20 | Hardwood | M.sq.ft. | | | |
| | | 40 | Softwood | M.sq.ft. | | | |
| | | | Reinforced or backed: | | | | |
| A | 240.04 | | Decorative wood veneers, not face finished, or face finished with a clear or transparent material which does not obscure the grain, texture, or markings of the wood | ..... | 3.2% ad val. | | 33-1/3% ad val. |
| | | 20 | Hardwood | M.sq.ft. | | | |
| | | 40 | Softwood | M.sq.ft. | | | |
| A | 240.06 | | Other | ..... | Free | | 20% ad val. |
| | | 20 | Hardwood | M.sq.ft. | | | |
| | | 40 | Softwood | M.sq.ft. | | | |
| | | | Plywood, whether or not face finished: | | | | |
| | | | Not face finished, or face finished with a clear or transparent material which does not obscure the grain, texture, or markings of the face ply: | | | | |
| A* | 240.10 | 00 | With a face ply of Spanish cedar (Cedrela spp.) | M.sq.ft. | 17% ad val. | 8% ad val. | 40% ad val. |
| A | 240.12 | 00 | With a face ply of Parana pine (Araucaria angustifolia) | M.sq.ft. | 10.6% ad val. | 5% ad val. | 40% ad val. |
| A | 240.14 | | With a face ply of birch (Betula spp.) | ..... | 6.4% ad val. | 3% ad val. | 50% ad val. |
| | | 20 | Panels not exceeding in any dimension 5/32 inch in thickness, 47 inches in width, and 85 inches in length | M.sq.ft. | | | |
| | | | Other: | | | | |
| | | 40 | Not face finished | M.sq.ft. | | | |
| | | 60 | Other | M.sq.ft. | | | |
| A | 240.16 | 00 | With a face ply of European red pine (Pinus sylvestris) | M.sq.ft. | 7.7% ad val. | 5.3% ad val. | 40% ad val. |

Note: For explanation of the symbol "A" or "A*" in the column entitled "GSP", see general headnote 3(c).

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| GSP | Item | Stat. Suffix | Articles | Units of Quantity | Rates of Duty 1 | Rates of Duty LDDC | Rates of Duty 2 |
|---|---|---|---|---|---|---|---|
| | | | Plywood, whether or not face finished (con.): | | | | |
| | | | Not face finished, or face finished, etc. (con.): | | | | |
| | 240.17 | | With a face ply of Philippine mahogany (almon (Shorea almon)), bagtikan (Parashorea plicata), red lauan (Shorea negrosensis), white lauan (Pentacme contorta and P. mindanensis), mayapis (Shorea squamata), tangile (Shorea polysperma) and tiaong (Shorea spp.); meranti (Shorea spp.); red seraya (Shorea spp.); and white seraya (Parashorea spp.) | ..... | 14% ad val. | 8% ad val. | 40% ad val. |
| | | 20 | Panels not exceeding in any dimension 5/32 inch in thickness, 47 inches in width, and 85 inches in length | M.sq.ft. | | | |
| | | | Other: | | | | |
| | | 40 | Not face finished | M.sq.ft. | | | |
| | | 60 | Other | M.sq.ft. | | | |
| A* | 240.19 | 00 | With a face ply of walnut (Juglans spp.) | M.sq.ft. | 17% ad val. | 8% ad val. | 40% ad val. |
| | | | Other: | | | | |
| A | 240.21 | 00 | With a face ply of softwood | M.sq.ft. | 20% ad val. | | 40% ad val. |
| | 240.23 | | Other | ..... | 10% ad val. | | 40% ad val. |
| | | | With a face ply of: | | | | |
| | | 20 | Sen (Kalopanax spp.) | M.sq.ft. | | | |
| | | 40 | Mahogany (Swietenia spp. or Khaya spp.) | M.sq.ft. | | | |
| | | 60 | Other | M.sq.ft. | | | |
| | 240.25 | | Other | ..... | 17% ad val. | 8% ad val. | 40% ad val. |
| | | 20 | With a face ply of hardwood | M.sq.ft. | | | |
| | | 40 | With a face ply of softwood | M.sq.ft. | | | |
| | | | Wood-veneer panels, whether or not face finished: | | | | |
| | | | With veneer faces on both sides: | | | | |
| | | | Not face finished, or face finished with a clear or transparent material which does not obscure the grain, texture, or markings of the face ply: | | | | |
| A | 240.30 | 00 | With a face ply of Spanish cedar (Cedrela spp.) | M.sq.ft. | 17% ad val. | 8% ad val. | 40% ad val. |
| A | 240.32 | 00 | With a face ply of Parana pine (Araucaria angustifolia) | M.sq.ft. | 11% ad val. | 6.6% ad val. | 40% ad val. |
| A | 240.34 | 00 | With a face ply of birch (Betula spp.) | M.sq.ft. | 6.4% ad val. | 3% ad val. | 50% ad val. |
| A | 240.36 | 00 | With a face ply of European red pine (Pinus sylvestris) | M.sq.ft. | 7.7% ad val. | 5.3% ad val. | 40% ad val. |
| A | 240.38 | | Other | ..... | 4% ad val. | | 40% ad val. |
| | | 20 | With a face ply of hardwood | M.sq.ft. | | | |
| | | 40 | With a face ply of softwood | M.sq.ft. | | | |
| A | 240.40 | 00 | Other | M.sq.ft. | 4% ad val. | | 40% ad val. |

Note: For explanation of the symbol "A" or "A*" in the column entitled "GSP", see general headnote 3(c).

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| GSP | Item | Stat. Suffix | Articles | Units of Quantity | Rates of Duty 1 | Rates of Duty LDDC | Rates of Duty 2 |
|---|---|---|---|---|---|---|---|
| | | | Wood-veneer panels, whether or not face finished (con.): | | | | |
| | | | With veneer face on one side only: | | | | |
| | | | Not face finished, or face finished with a clear or transparent material which does not obscure the grain, texture, or markings of the face ply: | | | | |
| A | 240.50 | 00 | With face ply of Spanish cedar (Cedrela spp.) | M.sq.ft. | 17.1% ad val. | 8.2% ad val. | 40% ad val. |
| A | 240.52 | 00 | With face ply of Parana pine (Araucaria angustifolia) | M.sq.ft. | 11% ad val. | 6.6% ad val. | 40% ad val. |
| A | 240.54 | 00 | With face ply of birch (Betula spp.) | M.sq.ft. | 6.4% ad val. | 3% ad val. | 50% ad val. |
| A | 240.56 | 00 | With face ply of European red pine (Pinus sylvestris) | M.sq.ft. | 7.7% ad val. | 5.3% ad val. | 40% ad val. |
| A | 240.58 | 00 | Other | M.sq.ft. | 8.5% ad val. | 4% ad val. | 40% ad val. |
| A | 240.60 | 00 | Other | M.sq.ft. | 8.5% ad val. | 4% ad val. | 40% ad val. |
| | | | Hardboard, whether or not face finished: | | | | |
| | | | Not face finished; and oil treated, whether or not regarded as tempered, but not otherwise face finished: | | | | |
| A | 245.00 | 00 | Valued not over $48.33-1/3 per short ton | S. ton | 7.5% ad val. | | 30% ad val. |
| A | 245.10 | 00 | Valued over $48.33-1/3 but not over $96.66-2/3 per short ton | S. ton | 7.5% ad val. | | 30% ad val. |
| A* | 245.20 | | Valued over $96.66-2/3 per short ton | ..... | 7.5% ad val. | | 30% ad. val. |
| | | 10 | With a surface texture or pattern which has been pressed or machined into the surface | S. ton | | | |
| | | 20 | Other | S. ton | | | |
| A | 245.30 | | Other | ..... | 15% ad val. | | 45% ad val. |
| | | 10 | With a surface texture or pattern which has been pressed or machined into the surface | S. ton | | | |
| | | 20 | Other | S. ton | | | |
| | | | Wood particle board, whether or not face finished: | | | | |
| A | 245.45 | 00 | If 90 percent or more by weight of the wood components consist of one, or any combination, of the following hardwoods: Pterocarpus spp., Triplaris spp., or Virola spp | Sq. ft.. Lb. v | 5.5% ad val. | 4% ad val. | 40% ad val. |
| A | 245.50 | 00 | Other | Sq. ft.. Lb. v | 8.5% ad val. | 4% ad val. | 40% ad val. |
| A | 245.60 | 00 | Cellular panels, whether or not face finished | M.sq.ft. | 8.5% ad val. | 4% ad val. | 40% ad val. |
| A | 245.70 | 00 | Gypsum or plaster building boards and lath | Lb. | 5.1% ad val. | 2.4% ad val. | 30% ad val. |
| | | | Building boards not specially provided for, whether or not face finished: | | | | |
| A | 245.80 | 00 | Laminated boards bonded in whole or in part, or impregnated, with synthetic resins | Sq. ft.. Lb. v | 2.2¢ per lb. + 4% ad val. | 1.3¢ per lb. + 2.3% ad val. | 15¢ per lb. + 25% ad val. |
| | 245.90 | | Other boards, of vegetable fibers (including wood fibers) | ..... | Free | | 20% ad val. |
| | | | Weighing 30 pounds or less per cubic foot: | | | | |
| | | 30 | Not over 540 square inches in area | M.sq.ft. Lb. v | | | |
| | | 50 | Over 540 square inches in area | M.sq.ft. Lb. v | | | |
| | | 70 | Other | M.sq.ft. Lb. v | | | |

Note: For explanation of the symbol "A" or "A*" in the column entitled "GSP", see general headnote 3(c).

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## Appendix B

## Concordance of TSUS numbers, Schedule B numbers, SIC numbers, SITC numbers, and CCCN numbers

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Softwood veneers, softwood plywood and veneer panels, and cellular panels: TSUS item numbers, Schedule B numbers, SIC numbers, SITC numbers, and BTN numbers included in this commodity group

| TSUS item No. | Schedule B No. | SIC No. | SITC No. | BTN No. |
|---|---|---|---|---|
| 240.03 (pt.) | 240.0160 | 2436 | 634.1 | 44.14 |
| 240.04 (pt.) | 240.0540 | | | |
| 240.06 (pt.) | | | | |
| 240.12 | 240.2020 | | 634.2 | 44.15A |
| 240.16 | 240.2040 | | 634.41 | 44.15B |
| 240.21 | 240.2060 | | 634.42 | 44.15C |
| 240.25 (pt.) | | | | |
| 240.32 | | | | |
| 240.36 | | | | |
| 240.38 (pt.) | | | | |
| 240.40 (pt.) | | | | |
| 240.52 | | | | |
| 240.56 | | | | |
| 240.58 (pt.) | | | | |
| 240.60 (pt.) | | | | |
| 245.60 | 245.6000 | | 634.43 | 44.16 |

## Appendix C

## Statistical Tables

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Table 1.--Softwood plywood: Comparison of selected large U.S. public companies in the industry with those in 30 industries, 1975-79

(In percent)

| Item | Softwood plywood industry | | | | | 30 industries 1/ | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 1975 | 1976 | 1977 | 1978 | 1979 | 1975 | 1976 | 1977 | 1978 | 1979 |
| Median return on stockholders equity 2/ | 10.7 | 12.5 | 15.3 | 16.7 | 19.0 | 11.7 | 12.9 | 13.9 | 15.4 | 16.7 |
| Median return on total capital | 7.0 | 8.1 | 10.3 | 11.0 | 12.6 | 8.2 | 9.8 | 10.2 | 10.5 | 11.8 |
| Median net profit per sale 3/ | 5.2 | 5.5 | 6.3 | 6.4 | 7.4 | 3.9 | 4.6 | 4.7 | 5.0 | 5.3 |

1/ 963 companies.

2/ Convertible bonds, convertible preferred stock, warrants, and stock options have been converted into common shares, and stockholders' equity has been created from shares and equivalents.

3/ Profit after taxes.

Source: Forbes, 28th-32d annual reports on the American industry, Jan. 1 of 1976-1980.

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Table 2.--Softwood plywood: Shipments, by producing region and markets, 1978-1979

(In million sq. ft., 3/8-inch basis)

| Market 1/ | Producing region | | | | | |
|---|---|---|---|---|---|---|
| | Western 2/ | | Other | | Total | |
| | 1978 | 1979 | 1978 | 1979 | 1978 | 1979 |
| Northeast | 737 | 611 | 1,020 | 1,098 | 1,757 | 1,709 |
| North Central | 1,247 | 925 | 2,425 | 2,303 | 3,673 | 3,228 |
| Southeast | 482 | 445 | 2,207 | 2,195 | 2,689 | 2,640 |
| South Central | 547 | 454 | 2,707 | 2,596 | 3,254 | 3,050 |
| Rocky Mountain | 726 | 596 | 601 | 576 | 1,327 | 1,172 |
| Pacific | 3,275 | 3,024 | 568 | 517 | 3,843 | 3,542 |
| Export | 142 | 243 | 55 | 86 | 1,967 | 3,288 |
| Total | 7,157 | 6,299 | 9,583 | 9,371 | 16,740 | 15,670 |

1/ States making up markets are as follows: Northeast--Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont; North Central--Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, Wisconsin; Southeast--Delaware, District of Columbia, Florida, Georgia, Maryland, North Carolina, South Carolina, Virginia, West Virginia; South Central--Alabama, Arkansas, Kentucky, Louisiana, Mississippi, Oklahoma, Tennessee, Texas; Rocky Mountain--Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Utah, Wyoming; Pacific--Alaska, California, Hawaii, Oregon, Washington.

2/ Comprising the portions of California, Oregon, and Washington west of the Cascade Mountains.

Source: Compiled from statistics of the American Plywood Assn., Geographical Analysis of Plywood Shipments Fourth Quarter, 1978 and 1979.

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Table 3.--Softwood veneer: U.S. production, exports, imports, and consumption, 1975-79

(Quantity in M. sq. ft.; value in thousands of dollars; average unit value per M. sq. ft.)

| Year | Production 1/ | Exports | Imports | Apparent consumption 1/ | Ratio (percent) of imports to consumption |
|---|---|---|---|---|---|
| | Quantity | | | | |
| 1975 | 57,100,000 | 346,497 | 352,304 | 57,100,000 | 0.6 |
| 1976 | 66,700,000 | 262,434 | 398,477 | 66,800,000 | .6 |
| 1977 | 70,300,000 | 170,459 | 552,830 | 70,780,000 | .8 |
| 1978 | 72,000,000 | 188,319 | 510,753 | 72,300,000 | .7 |
| 1979 | 71,500,000 | 186,521 | 516,458 | 71,800,000 | .7 |
| | Value | | | | |
| 1975 | 2/ | 15,013 | 7,021 | 2/ | 2/ |
| 1976 | 2/ | 11,360 | 10,430 | 2/ | 2/ |
| 1977 | 2/ | 8,986 | 16,176 | 2/ | 2/ |
| 1978 | 2/ | 11,197 | 16,354 | 2/ | 2/ |
| 1979 | 2/ | 13,029 | 18,793 | 2/ | 2/ |
| | Average unit value | | | | |
| 1975 | 2/ | $43.33 | $19.93 | 3/ | 3/ |
| 1976 | 2/ | 43.29 | 26.17 | 3/ | 3/ |
| 1977 | 2/ | 52.72 | 29.26 | 3/ | 3/ |
| 1978 | 2/ | 59.46 | 32.02 | 3/ | 3/ |
| 1979 | 2/ | 69.85 | 36.39 | 3/ | 3/ |

1/ Estimated by the staff of the United States International Trade Commission.
2/ Not available.
3/ Not applicable.

Source: Compiled from official statistics of the U.S. Department of Commerce, except as noted.

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Table 4.--Softwood plywood: U.S. production, exports, imports, and consumption, 1975-79

(Quantity in M. sq. ft.; value in thousands of dollars, average unit value per M. sq. ft.)

| Year | Production 1/ | Exports | Imports | Apparent consumption 1/ | Ratio (percent) of imports to consumption |
|---|---|---|---|---|---|
| | Quantity | | | | |
| 1975 | 15,550,000 | 791,381 | 25,793 | 14,780,000 | 2/ |
| 1976 | 17,840,000 | 718,827 | 45,540 | 17,170,000 | 2/ |
| 1977 | 18,800,000 | 287,773 | 44,022 | 18,600,000 | 2/ |
| 1978 | 19,500,000 | 301,860 | 66,406 | 19,600,000 | 2/ |
| 1979 | 19,430,000 | 405,959 | 29,965 | 19,050,000 | 2/ |
| | Value | | | | |
| 1975 | 1,661,000 | 124,914 | 2,225 | 1,538,000 | 2/ |
| 1976 | 2,515,000 | 128,744 | 4,764 | 2,391,000 | 2/ |
| 1977 | 3,131,000 | 57,418 | 6,686 | 3,080,000 | 2/ |
| 1978 | 3,524,000 | 67,038 | 11,000 | 3,468,000 | 2/ |
| 1979 | 4,586,000 | 100,235 | 6,222 | 4,492,000 | 2/ |
| | Average unit value | | | | |
| 1975 | $108.81 | $157.84 | $ 86.25 | 3/ | 3/ |
| 1976 | 140.97 | 179.10 | 104.60 | 3/ | 3/ |
| 1977 | 166.52 | 199.53 | 151.88 | 3/ | 3/ |
| 1978 | 180.72 | 222.08 | 165.74 | 3/ | 3/ |
| 1979 | 236.03 | 246.91 | 230.74 | 3/ | 3/ |

1/ Estimated by the staff of the U.S. International Trade Commission.
2/ Less than.05 percent.
3/ Not applicable.

Source: Compiled from official statistics of the U.S. Department of Commerce, except as noted.

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Table 5.--Softwood veneer : U.S. imports for consumption, by principal sources, 1975-79

| Source | 1975 | 1976 | 1977 | 1978 | 1979 |
|---|---|---|---|---|---|
| | Quantity (m. square feet) | | | | |
| Canada | 347,188 | 379,021 | 527,915 | 494,602 | 498,149 |
| Peru | 0 | 2,400 | 7,126 | 9,362 | 5,512 |
| Ivy Cst | 254 | 1,887 | 26 | 380 | 3,420 |
| Fiji | 0 | 893 | 86 | 206 | 2,997 |
| Rep Saf | 0 | 0 | 123 | 0 | 1,261 |
| U King | 22 | 215 | 262 | 27 | 234 |
| Mexico | 592 | 701 | 1,540 | 479 | 809 |
| Belgium | 0 | 0 | 0 | 0 | 435 |
| All other | 4,248 | 13,360 | 15,752 | 5,697 | 3,641 |
| Total | 352,304 | 398,477 | 552,830 | 510,753 | 516,458 |
| | Value (1,000 dollars) | | | | |
| Canada | 6,618 | 9,235 | 14,721 | 15,408 | 17,748 |
| Peru | - | 88 | 247 | 341 | 302 |
| Ivy Cst | 12 | 72 | 1 | 17 | 235 |
| Fiji | - | 50 | 4 | 9 | 139 |
| Rep Saf | - | - | 8 | - | 115 |
| U King | 16 | 73 | 55 | 17 | 54 |
| Mexico | 20 | 27 | 82 | 24 | 54 |
| Belgium | - | - | - | - | 37 |
| All other | 355 | 884 | 1,058 | 539 | 108 |
| Total | 7,021 | 10,430 | 16,176 | 16,354 | 18,793 |
| | Unit value (per m. square feet) | | | | |
| Canada | $19.06 | $24.37 | $27.89 | $31.15 | $35.63 |
| Peru | - | 36.67 | 34.71 | 36.45 | 54.87 |
| Ivy Cst | 47.50 | 38.33 | 45.54 | 43.67 | 68.80 |
| Fiji | - | 55.64 | 41.43 | 42.34 | 46.36 |
| Rep Saf | - | - | 66.92 | - | 91.32 |
| U King | 732.09 | 340.54 | 209.61 | 616.04 | 231.84 |
| Mexico | 34.01 | 38.50 | 53.18 | 50.15 | 66.66 |
| Belgium | - | - | - | - | 84.19 |
| All other | 83.50 | 66.18 | 67.15 | 94.54 | 29.64 |
| Average | 19.93 | 26.17 | 29.26 | 32.02 | 36.39 |

Source: Compiled from official statistics of the U.S. Department of Commerce.

Note.--Because of rounding, figures may not add to the totals shown.

Table 6.--Softwood plywood: U.S. imports for consumption, by principal sources, 1975-79

| Source | 1975 | 1976 | 1977 | 1978 | 1979 |
|---|---|---|---|---|---|
| | Quantity (m. square feet) | | | | |
| Phil R. | 2,013 | 5,764 | 7,028 | 5,626 | 6,817 |
| Kor Rep. | 13,612 | 16,566 | 14,492 | 13,396 | 6,976 |
| Mexico | 1 | 601 | 6,286 | 13,681 | 3,519 |
| Taiwan | 5,564 | 16,715 | 13,219 | 26,729 | 5,038 |
| Hondura | 223 | 403 | 723 | 1,494 | 1,999 |
| Canada | 413 | 2,900 | 1,301 | 1,400 | 1,610 |
| Brazil | 4 | 104 | 6 | 306 | 631 |
| Guatmal | 0 | 0 | 17 | 0 | 90 |
| All other | 3,963 | 2,487 | 950 | 3,774 | 285 |
| Total | 25,793 | 45,540 | 44,022 | 66,406 | 26,965 |
| | Value (1,000 dollars) | | | | |
| Phil R. | 312 | 906 | 1,353 | 1,228 | 1,599 |
| Kor Rep. | 1,008 | 1,462 | 1,553 | 1,560 | 1,394 |
| Mexico | 1/ | 201 | 1,772 | 3,962 | 1,160 |
| Taiwan | 440 | 1,410 | 1,461 | 3,239 | 763 |
| Hondura | 28 | 55 | 190 | 336 | 537 |
| Canada | 105 | 318 | 208 | 237 | 402 |
| Brazil | 1 | 7 | 2 | 34 | 197 |
| Guatmal | - | - | 1 | 1/ | 36 |
| All other | 330 | 403 | 147 | 410 | 133 |
| Total | 2,225 | 4,764 | 6,686 | 11,006 | 6,222 |
| | Unit value (per m. square feet) | | | | |
| Phil R. | $154.78 | $157.25 | $192.48 | $218.22 | $234.57 |
| Kor Rep. | 74.08 | 88.27 | 107.15 | 116.45 | 199.88 |
| Mexico | 105.00 | 334.96 | 281.86 | 289.58 | 329.67 |
| Taiwan | 79.08 | 84.36 | 110.49 | 121.17 | 151.53 |
| Hondura | 124.09 | 137.03 | 262.64 | 225.13 | 268.57 |
| Canada | 254.90 | 109.61 | 159.55 | 169.64 | 249.92 |
| Brazil | 342.50 | 67.40 | 362.33 | 111.41 | 311.58 |
| Guatmal | - | - | 84.06 | - | 401.76 |
| All other | 83.36 | 162.20 | 154.60 | 108.72 | 466.26 |
| Average | 86.25 | 104.60 | 151.88 | 165.74 | 230.74 |

Source: Compiled from official statistics of the U.S. Department of Commerce.

Note.--Because of rounding, figures may not add to the totals shown.



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Table 7.--Softwood plywood, other, not face finished: U.S. imports for consumption, by principal sources, 1975-79

| Source | 1975 | 1976 | 1977 | 1978 | 1979 |
|---|---|---|---|---|---|
| | Quantity (m. square feet) | | | | |
| Phil R. | 1,147 | 3,528 | 5,897 | 4,791 | 5,851 |
| Mexico | 0 | 601 | 6,286 | 13,637 | 3,519 |
| Kor Rep | 0 | 1,280 | 0 | 177 | 1,863 |
| Hondura | 140 | 0 | 614 | 1,073 | 1,714 |
| Taiwan | 1,059 | 3,384 | 4,428 | 11,155 | 2,206 |
| Canada | 283 | 29 | 442 | 519 | 1,398 |
| Rep Saf | 0 | 0 | 0 | 0 | 63 |
| N Zeal | 0 | 0 | 0 | 0 | 34 |
| Austral | 0 | 0 | 0 | 0 | 4 |
| Nicarag | 896 | 931 | 283 | 599 | 0 |
| All other | 267 | 22 | 53 | 223 | 0 |
| Total | 3,792 | 9,775 | 18,003 | 32,174 | 16,652 |
| | Value (1,000 dollars) | | | | |
| Phil R. | 178 | 548 | 1,122 | 1,092 | 1,325 |
| Mexico | - | 201 | 1,772 | 3,949 | 1,160 |
| Kor Rep | - | 67 | - | 29 | 657 |
| Hondura | 23 | - | 183 | 289 | 510 |
| Taiwan | 129 | 334 | 606 | 1,758 | 363 |
| Canada | 61 | 6 | 107 | 80 | 298 |
| Rep Saf | - | - | - | - | 32 |
| N Zeal | - | - | - | - | 2 |
| Austral | - | - | - | - | 1 |
| Nicarag | 84 | 211 | 66 | 147 | - |
| All other | 57 | 13 | 14 | 35 | - |
| Total | 531 | 1,379 | 3,870 | 7,380 | 4,347 |
| | Unit value (per m. square feet) | | | | |
| Phil R. | $154.86 | $155.27 | $190.29 | $227.86 | $226.50 |
| Mexico | - | 334.96 | 281.86 | 289.61 | 329.67 |
| Kor Rep | - | 52.40 | - | 161.21 | 352.45 |
| Hondura | 161.49 | - | 297.67 | 269.46 | 297.83 |
| Taiwan | 121.78 | 98.56 | 136.95 | 157.64 | 164.42 |
| Canada | 215.83 | 202.34 | 241.00 | 154.51 | 212.99 |
| Rep Saf | - | - | - | - | 500.59 |
| N Zeal | - | - | - | - | 50.38 |
| Austral | - | - | - | - | 170.00 |
| Nicarag | 93.52 | 226.16 | 234.31 | 245.59 | - |
| All other | 214.24 | 573.18 | 263.58 | 158.95 | - |
| Average | 140.10 | 141.05 | 214.96 | 229.38 | 261.04 |

Source: Compiled from official statistics of the U.S. Department of Commerce.

Note.--Because of rounding, fugures may not add to the totals shown.

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Table 8.--Softwood plywood, face finished: U.S. imports for consumption, by principal sources, 1975-79

| Source | 1975 | 1976 | 1977 | 1978 | 1979 |
|---|---|---|---|---|---|
| | Quantity (m. square feet) | | | | |
| Kor Rep. | 13,611 | 15,008 | 14,005 | 13,217 | 5,032 |
| Taiwan | 4,499 | 13,299 | 8,618 | 14,264 | 2,805 |
| Canada | 47 | 54 | 67 | 464 | 194 |
| Denmark | 0 | 0 | 1 | 0 | 9 |
| China P. | 0 | 0 | 0 | 0 | 24 |
| Hg Kong | 0 | 0 | 31 | 0 | 1 |
| Japan | 7 | 30 | 119 | 146 | 9 |
| Italy | 0 | 15 | 0 | 0 | 0 |
| Nethlds | 0 | 0 | 0 | 0 | 2 |
| Phil R. | 0 | 217 | 73 | 192 | 0 |
| All other | 9 | 47 | 375 | 25 | 0 |
| Total | 18,173 | 28,670 | 23,289 | 28,308 | 8,076 |
| | Value (1,000 dollars) | | | | |
| Kor Rep. | 1,008 | 1,348 | 1,441 | 1,531 | 712 |
| Taiwan | 310 | 1,074 | 839 | 1,342 | 369 |
| Canada | 11 | 18 | 20 | 119 | 93 |
| Denmark | - | - | 1/ | - | 14 |
| China P. | - | - | - | - | 7 |
| Hg Kong | - | - | 3 | - | 3 |
| Japan | 2 | 7 | 13 | 25 | 3 |
| Italy | - | 1/ | 1/ | - | 1 |
| Nethlds | - | 1/ | - | - | 1 |
| Phil R. | - | 18 | 8 | 18 | - |
| All other | 2 | 9 | 26 | 2 | - |
| Total | 1,333 | 2,474 | 2,350 | 3,038 | 1,203 |
| | Unit value (per m. square feet) | | | | |
| Kor Rep. | $74.07 | $89.82 | $102.86 | $115.86 | $141.55 |
| Taiwan | 68.82 | 80.78 | 97.40 | 94.10 | 131.62 |
| Canada | 236.30 | 327.96 | 293.22 | 256.90 | 477.72 |
| Denmark | - | - | 51.00 | - | 1,581.33 |
| China P. | - | - | - | - | 284.67 |
| Hg Kong | - | - | 85.97 | - | 3,410.00 |
| Japan | 276.14 | 217.67 | 110.81 | 172.08 | 286.89 |
| Italy | - | 14.07 | - | - | - |
| Nethlds | - | - | - | - | 379.50 |
| Phil R. | - | 81.35 | 115.71 | 94.25 | - |
| All other | 227.56 | 197.15 | 69.53 | 92.12 | - |
| Average | 73.34 | 86.28 | 100.91 | 107.33 | 148.95 |

Source: Compiled from official statistics of the U.S. Department of Commerce.

Note.--Because of rounding, figures may not add to the total shown.



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Table 9.--Board products: Production, imports, exports, and apparent consumption, by geographical area, 1978

| Area | Production | Imports | Exports | Consumption | Share of total |
|---|---|---|---|---|---|
| | 1,000 cubic meters | | | | Percent |
| Veneer sheets: 1/ | | | | | |
| North and Central America | 506 | 510 | 649 | 367 | 7 |
| South America | 224 | 40 | 77 | 187 | 3 |
| Asia | 1,165 | 310 | 258 | 1,217 | 22 |
| Europe | 1,660 | 1,633 | 254 | 3,039 | 55 |
| U.S.S.R. | 476 | 37 | 7 | 506 | 9 |
| All other | 355 | 58 | 183 | 230 | 4 |
| Total | 4,386 | 2,588 | 1,428 | 5,546 | 100 |
| Plywood: | | | | | |
| North and Central America | 20,132 | 2,475 | 733 | 21,874 | 53 |
| South America | 1,024 | 10 | 107 | 927 | 2 |
| Asia | 14,326 | 704 | 4,399 | 10,631 | 26 |
| Europe | 3,412 | 3,138 | 1,408 | 5,142 | 13 |
| U.S.S.R. | 2,122 | 58 | 337 | 1,843 | 4 |
| All other | 537 | 236 | 118 | 655 | 2 |
| Total | 41,553 | 6,621 | 7,102 | 41,072 | 100 |
| Particle board: | | | | | |
| North and Central America | 7,721 | 433 | 140 | 8,014 | 21 |
| South America | 827 | 1 | 14 | 814 | 2 |
| Asia | 1,641 | 82 | 40 | 1,683 | 4 |
| Europe | 22,684 | 4,526 | 4,512 | 22,698 | 59 |
| U.S.S.R. | 4,777 | 2/ | 321 | 4,456 | 12 |
| All other | 939 | 36 | 27 | 948 | 2 |
| Total | 38,589 | 5,078 | 5,054 | 38,613 | 100 |
| Compressed fiber board: | | | | | |
| North and Central America | 8,159 | 458 | 266 | 8,351 | 47 |
| South America | 787 | 3 | 205 | 585 | 3 |
| Asia | 1,115 | 89 | 24 | 1,180 | 7 |
| Europe | 4,529 | 1,318 | 1,393 | 4,454 | 25 |
| U.S.S.R. | 2,957 | 2/ | 297 | 2,660 | 16 |
| All other | 352 | 93 | 61 | 384 | 2 |
| Total | 17,899 | 1,961 | 2,246 | 17,614 | 100 |

1/ Quantity given excludes veneer sheets used for plywood production within the country.

2/ Not available, but assumed to be negligible.

Source: Compiled from official statistics of the Food and Agriculture Organization, United Nations.

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Table 10.--Softwood veneer and softwood plywood: Canadian shipments, imports, exports, and apparent consumption, 1975-79

| Item | 1975 | 1976 | 1977 | 1978 | 1979 |
|---|---|---|---|---|---|
| | (Million square feet, 1/8-inch basis) | | | | |
| Softwood veneers: | | | | | |
| Shipments | 1,715 | 2,208 | 2,542 | 2,299 | 1/ 2,400 |
| Imports | 286 | 278 | 135 | 144 | 125 |
| Exports | 335 | 377 | 501 | 467 | 466 |
| Apparent consumption | 1,666 | 2,109 | 2,176 | 1,976 | 1/ 2,059 |
| | (Million square feet, 3/8-inch basis) | | | | |
| Softwood plywood: | | | | | |
| Shipments | 2,236 | 2,412 | 2,665 | 2,911 | 2,805 |
| Imports | 513 | 195 | 32 | 25 | 23 |
| Exports | 282 | 238 | 417 | 538 | 505 |
| Apparent consumption | 2,467 | 2,369 | 2,280 | 2,398 | 2,323 |

1/ Estimated.

Source: Compiled from official statistics of Statistics Canada, except as noted.

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Table 11.--Softwood veneer : U.S. exports of domestic merchandise, by principal markets, 1975-79

| Market | 1975 | 1976 | 1977 | 1978 | 1979 |
|---|---|---|---|---|---|
| | Quantity (m. square feet) | | | | |
| Canada | 329,598 | 235,894 | 119,282 | 138,091 | 115,274 |
| FR Germ | 9,961 | 15,526 | 32,319 | 28,486 | 28,942 |
| Italy | 448 | 361 | 0 | 1,540 | 7,205 |
| Switzld | 1,791 | 4,817 | 7,473 | 2,162 | 5,624 |
| Nethlds | 788 | 3,131 | 5,584 | 4,706 | 3,900 |
| Mexico | 810 | 499 | 1,248 | 1,773 | 7,532 |
| U King | 56 | 172 | 737 | 1,404 | 2,497 |
| Taiwan | 113 | 0 | 0 | 0 | 2,524 |
| All other | 2,932 | 2,034 | 3,816 | 10,157 | 13,023 |
| Total | 346,497 | 262,434 | 170,459 | 188,319 | 186,521 |
| | Value (1,000 dollars) | | | | |
| Canada | 14,162 | 9,265 | 5,222 | 7,077 | 7,203 |
| FR Germ | 551 | 1,403 | 2,592 | 2,554 | 2,578 |
| Italy | 22 | 24 | - | 97 | 653 |
| Switzld | 92 | 270 | 479 | 222 | 590 |
| Nethlds | 39 | 220 | 318 | 297 | 337 |
| Mexico | 28 | 11 | 23 | 111 | 267 |
| U King | 9 | 4 | 73 | 156 | 258 |
| Taiwan | 9 | - | - | - | 244 |
| All other | 101 | 163 | 279 | 682 | 897 |
| Total | 15,013 | 11,360 | 8,986 | 11,197 | 13,029 |
| | Unit value (per m. square feet) | | | | |
| Canada | $42.97 | $39.28 | $43.78 | $51.25 | $62.49 |
| FR Germ | 55.31 | 90.35 | 80.21 | 89.66 | 89.07 |
| Italy | 48.95 | 65.71 | - | 63.18 | 90.69 |
| Switzld | 51.63 | 56.07 | 64.05 | 102.89 | 104.86 |
| Nethlds | 49.35 | 70.31 | 56.93 | 63.11 | 86.45 |
| Mexico | 34.35 | 21.24 | 18.20 | 62.47 | 35.47 |
| U King | 160.63 | 24.30 | 99.48 | 111.38 | 103.49 |
| Taiwan | 79.44 | - | - | - | 96.87 |
| All other | 34.55 | 80.38 | 73.06 | 67.16 | 68.91 |
| Average | 43.33 | 43.29 | 52.72 | 59.46 | 69.85 |

Source: Compiled from official statistics of the U.S. Department of Commerce.

Note.--Because of rounding, figures may not add to the totals shown.

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Table 12.--Softwood plywood: U.S. exports of domestic merchandise, by principal markets, 1975-79

| Market | 1975 | 1976 | 1977 | 1978 | 1979 |
|---|---|---|---|---|---|
| | Quantity (m. square feet) | | | | |
| U King | 103,946 | 154,165 | 48,330 | 68,349 | 91,860 |
| Belgium | 51,938 | 69,696 | 52,473 | 48,936 | 82,239 |
| Denmark | 125,219 | 148,717 | 57,816 | 39,725 | 64,694 |
| Canada | 394,540 | 163,346 | 43,244 | 45,003 | 44,383 |
| Nethlds | 34,464 | 70,713 | 19,916 | 19,541 | 30,822 |
| FR Germ | 23,526 | 42,617 | 16,289 | 13,277 | 22,377 |
| Italy | 10,973 | 12,451 | 10,611 | 2,377 | 13,600 |
| Japan | 2,377 | 2,387 | 1,938 | 2,837 | 6,117 |
| All other | 44,398 | 54,735 | 37,156 | 61,815 | 49,867 |
| Total | 791,381 | 718,827 | 287,773 | 301,860 | 405,959 |
| | Value (1,000 dollars) | | | | |
| U King | 14,387 | 24,284 | 9,167 | 12,776 | 20,146 |
| Belgium | 6,760 | 11,718 | 8,975 | 8,821 | 18,452 |
| Denmark | 19,392 | 28,222 | 11,237 | 9,352 | 16,796 |
| Canada | 63,960 | 29,178 | 7,907 | 8,950 | 10,315 |
| Nethlds | 5,889 | 12,142 | 3,697 | 3,959 | 7,850 |
| FR Germ | 3,369 | 7,514 | 3,095 | 3,033 | 6,706 |
| Italy | 1,474 | 2,461 | 2,350 | 494 | 2,620 |
| Japan | 673 | 807 | 714 | 1,135 | 2,219 |
| All other | 9,009 | 12,419 | 10,278 | 18,518 | 15,131 |
| Total | 124,914 | 128,744 | 57,418 | 67,038 | 100,235 |
| | Unit value (per m. square feet) | | | | |
| U King | $138.41 | $157.52 | $189.67 | $186.93 | $219.31 |
| Belgium | 130.15 | 168.13 | 171.03 | 180.26 | 224.37 |
| Denmark | 154.87 | 189.77 | 194.36 | 235.42 | 259.62 |
| Canada | 162.11 | 178.63 | 182.83 | 198.88 | 232.42 |
| Nethlds | 170.87 | 171.71 | 185.63 | 202.60 | 254.69 |
| FR Germ | 143.19 | 176.31 | 189.98 | 228.40 | 299.69 |
| Italy | 134.32 | 197.63 | 221.47 | 207.76 | 192.66 |
| Japan | 283.30 | 338.17 | 368.45 | 399.92 | 362.71 |
| All other | 202.91 | 226.89 | 276.61 | 299.57 | 303.42 |
| Average | 157.84 | 179.10 | 199.53 | 222.08 | 246.91 |

Source: Compiled from official statistics of the U.S. Department of Commerce.

Note.--Because of rounding, figures may not add to the totals shown.



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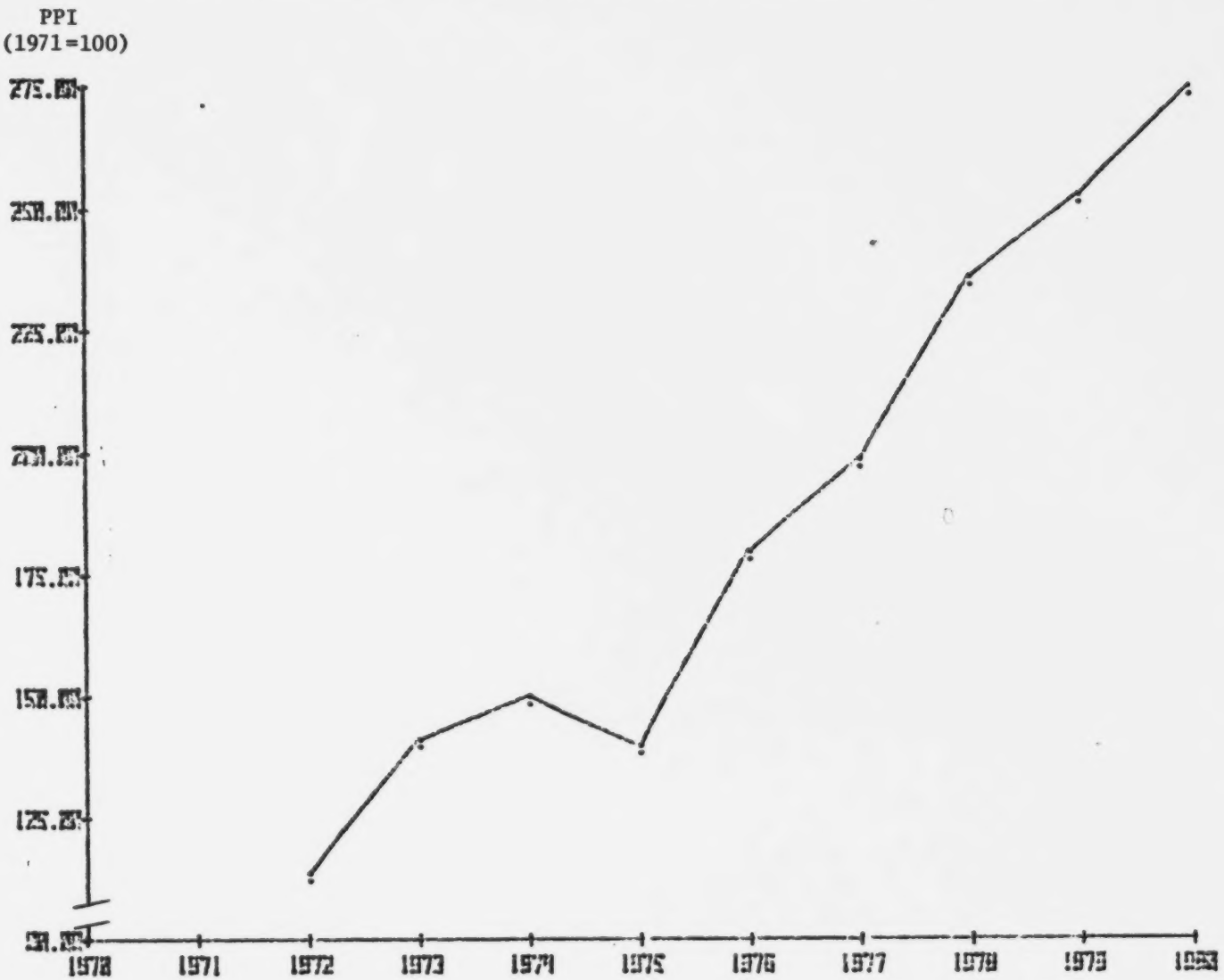
# Appendix D

## Figures

Figure 1.--Softwood veneer: Producer Price Index (1971=100), 1972-80.




Source: Official statistics of the U.S. Department of Labor.

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PPI
(1967=100) Figure 2.--Softwood plywood: Producer Price Index (1967=100), 1970-80.

Source: Official statistics of the U.S. Department of Labor.

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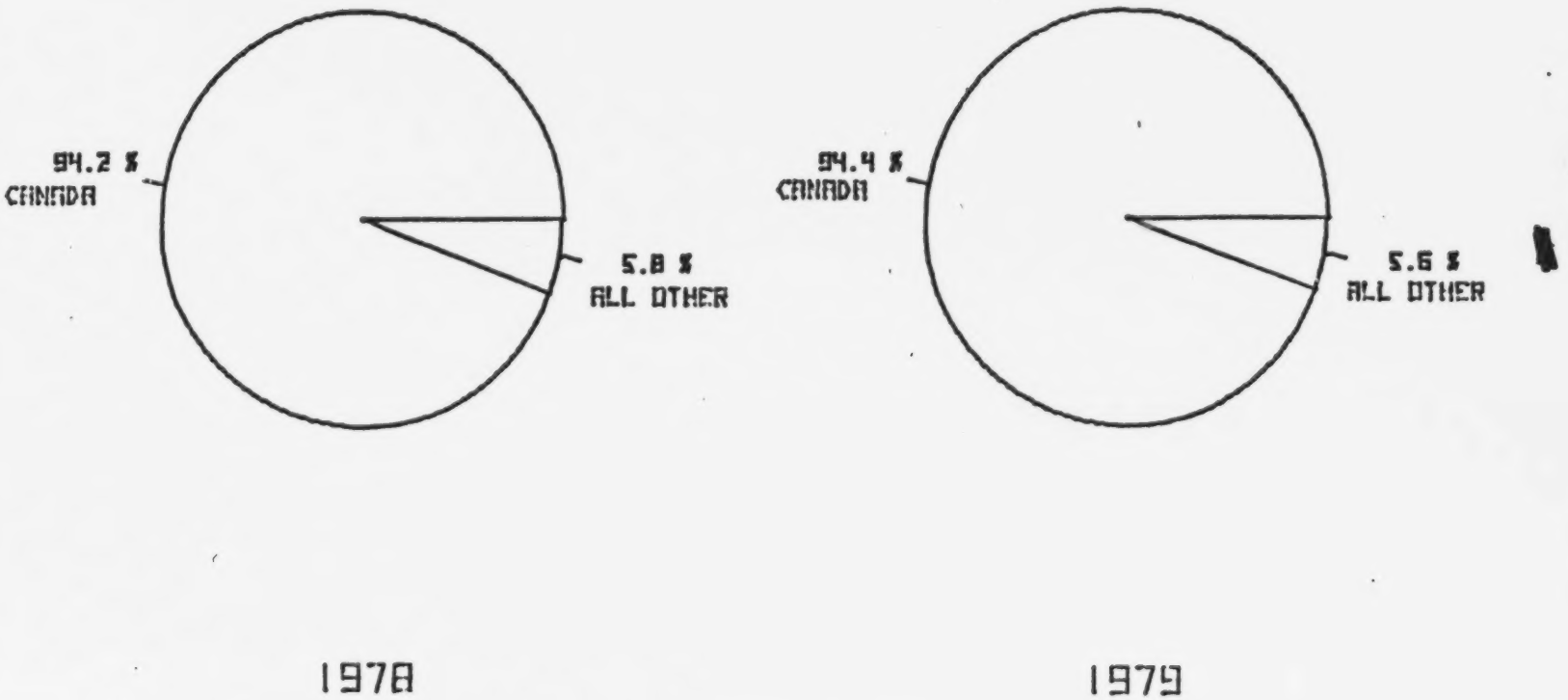
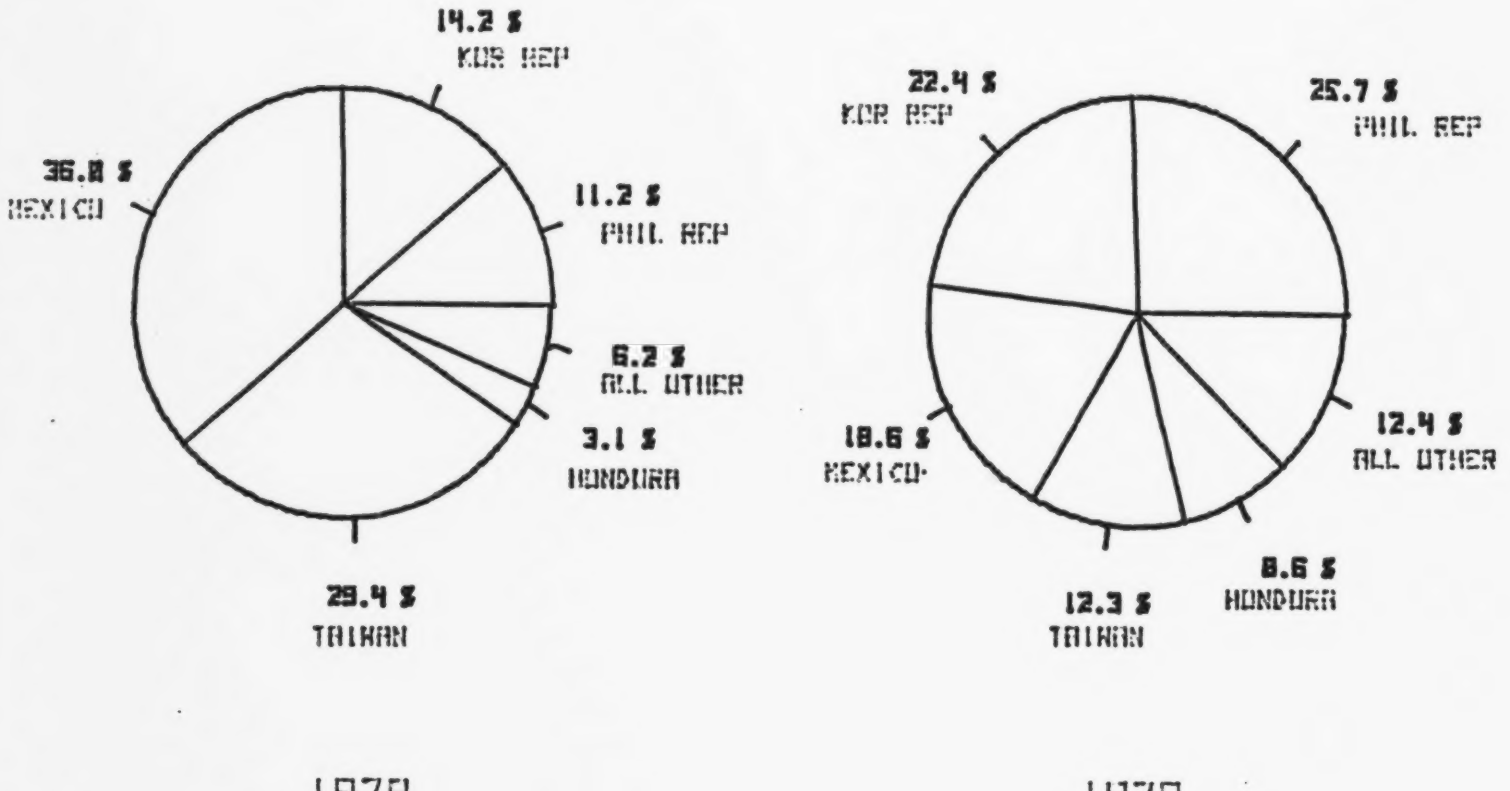
Figure 3.--Softwood veneer: U.S. imports for consumption, by percent of values and by principal sources, 1978-79.




Source: Official statistics of the U.S. Department of Commerce.

Figure 4.--Softwood plywood: U.S. imports for consumption, by percent of values and by principal sources, 1978-79.




Source: Official statistics of the U.S. Department of Commerce.



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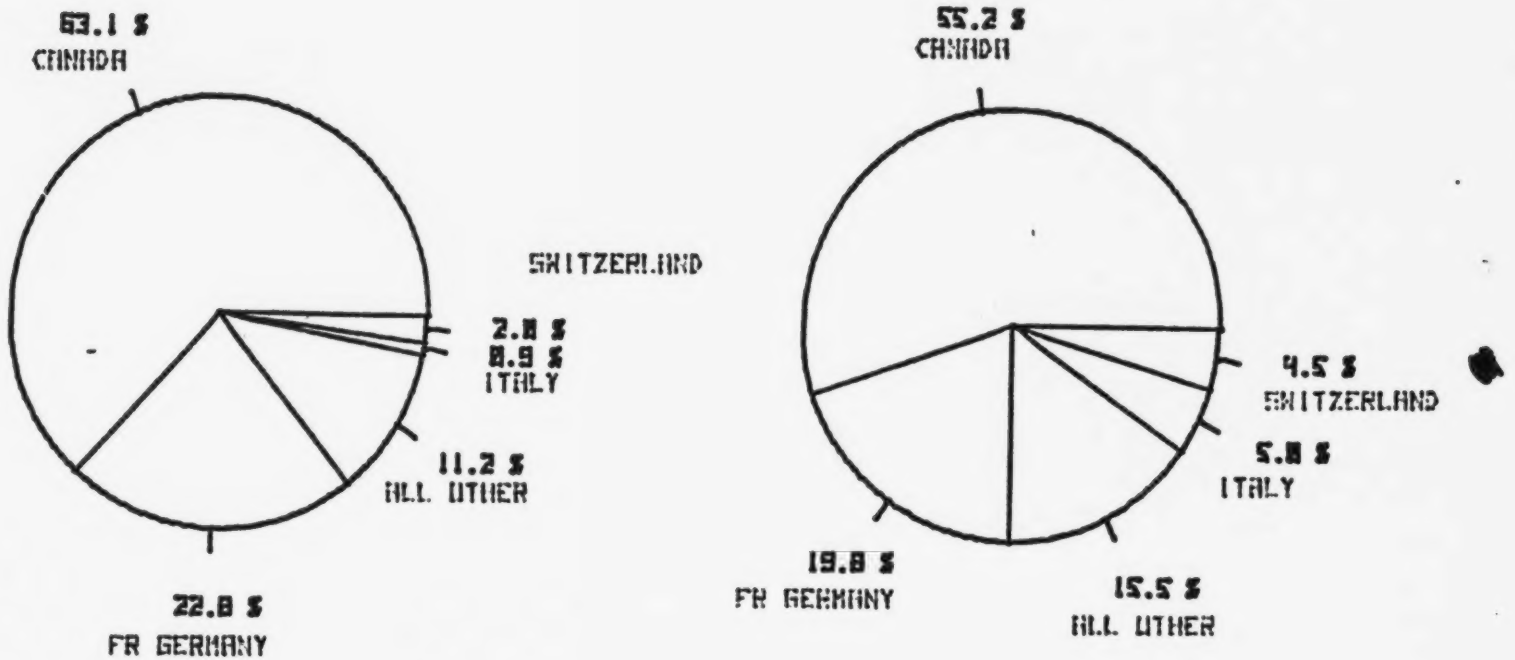
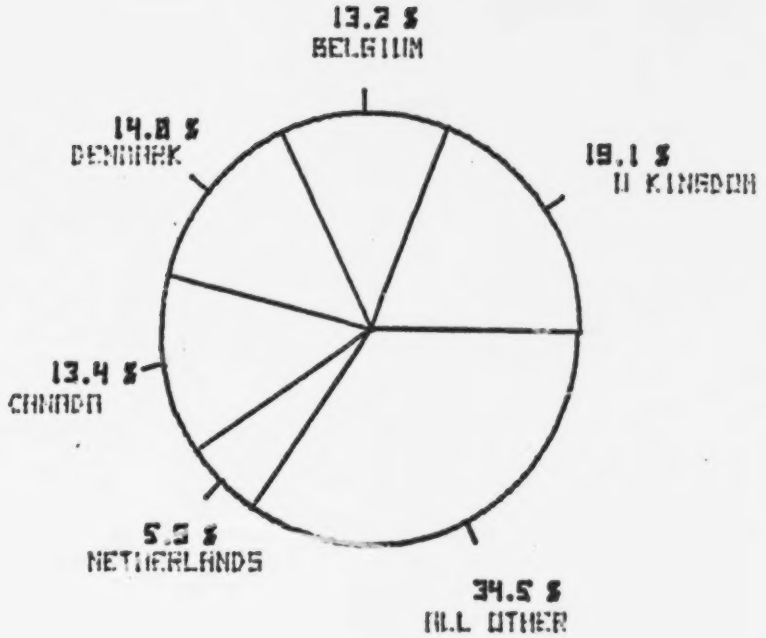
Figure 5.--Softwood veneer : U.S. exports, by percent of values and by principal markets, 1978-79.

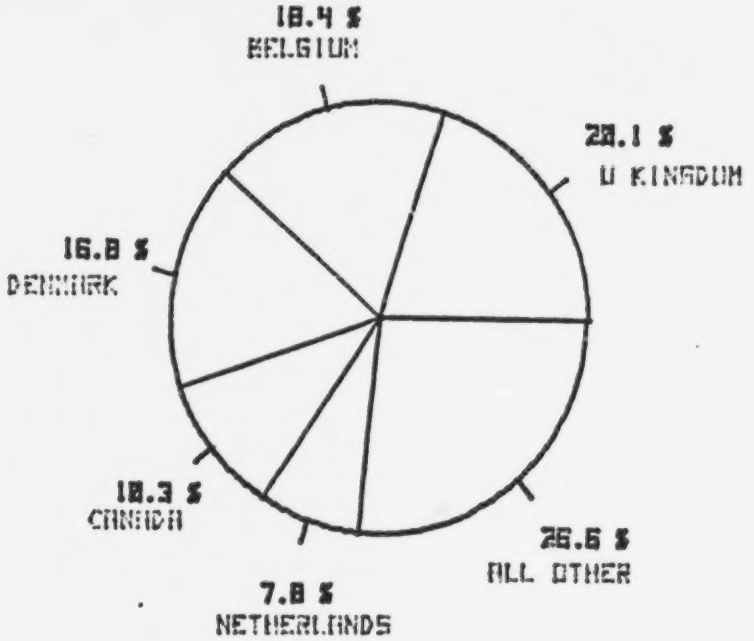



Source: Official statistics of the U.S. Department of Commerce.

Figure 6.--Softwood plywood: U.S. exports, by percent of values and by principal markets, 1978-79.




1978




1979

Source: Official statistics of the U.S. Department of Commerce.

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SUMMARIES OF TRADE AND TARIFF INFORMATION

USITC PUBLICATION 841

COMPLETE LIST OF SUMMARIES PUBLISHED TO DATE IN SCHEDULE 2

| Control No. | Title | Control No. | Title |
|---|---|---|---|
| 2-3-1 | Hardwood Plywood | | |
| 2-1-2 | Wood Doors | | |
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